TABLES OF THEORETICAL ZEEMAN EFFECTS

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ABSTRACT

The splitting of spectrum lines into components, when the source is in a magnetic field, Zeeman effect, furnishes theoretically an absolute identification of the terms involved in the production of the lines. Based on the theoretical work of Landé the Zeeman effects of various term combinations have been computed, and these are now presented in tabular form. The tables give results for terms from S to I in the doublet, quartet, sextet, and octet systems; in the triplet, quintet, and septet systems; and in the doublet-quartet, quartet-sextet, sextet-octet, singlet-triplet, triplet-quintet, and quintet-septet intersystems.

CONTENTS

I. INTRODUCTION

The classification of the lines of a spectrum as differences between terms of various types has made rapid progress in recent years. Especially is this true of the complex spectra of the elements occupying the columns on the right of the periodic table. This work has been aided by several kinds of physical phenomena which reveal the existence of a relationship between the members of a group of neighboring spectrum lines. Among these aids may be mentioned the temperature classification of King, the reversibility of lines under various conditions, the red-ward shift of lines with pressure, and the splitting of lines in electric (Stark effect) and magnetic fields (Zeeman effect).

Of these aids the Zeeman effect, observed in weak fields, furnishes theoretically an absolute identification of the term combination represented by a spectrum line. The theory of the Zeeman effect derived by Lorentz from the classical mechanics accounted only for the so-called normal triplets. The explanation of the "anomalous" Zeeman effect, which is characteristic of the majority of lines, was possible only after the development of modern theories of spectra based on the quantum theory of atomic structure.

The idea that the splitting of a line in the magnetic field was the result of a splitting of the terms which combine to produce the line first originated with Van Lohuizen.[1] The subsequent development of

[1] Proc. Acad. Amsterdam, 22, p. 190; 1919.

this idea by Sommerfeld,[2] and others, culminated in the work of Landé,[3] who, guided largely by the high precision observations of Back, was able to give a formula for the splitting of a term in the magnetic field. This formula expresses a relation between the quantum numbers necessary to completely specify a spectral term.

The terms of a spectrum correspond to the various energy states of the emitting atom and their types may be calculated, as shown by Hund,[4] from the different configurations which the valence electrons of the atom assume when it is excited. In addition to the total quantum number n, which tells which shell it is in, each electron is specified by the quantum numbers $l_1(=0, 1, 2, 3, \ldots$, for s, p, d, f, . . ., electrons, respectively), and $s_1(=\pm 1/2)$, which state the number of units of quantized angular momenta associated with their orbital revolutions and axial rotations. Any term ${}^r\mathrm{T}_j$ represents quantitatively one of the resultants obtained by adding together vectorially the orbital and axial angular momenta of the electrons composing a particular configuration. Thus, $l=\Sigma l_1=0, 1, 2, 3, \ldots$ for S, P, D, F, . . . terms, and $s=\Sigma s_1=0, 1/2, 1, 3/2, 2, \ldots$ for singlets, doublets, triplets, quartets, quintets, etc. The inner quantum numbers, j, which represent mechanically the resultant angular momentum of the atom, are given by the relations $j_{\max}=l+s$, and $j_{\min}=l-s$; and the multiplicity by $r=2s+1$.

When the atom is in a magnetic field it behaves like a spinning top subject to external force moment; that is, its axis of resultant angular momentum, the axis of j, describes a precessional cone (Larmor precession) about the direction of the field. Since the motion is quantized, only those angles of the cone are permitted which correspond to integral projections of j on the field in the case of odd multiplicities, and half-integral projections for even multiplicities. The values of these projections are designated by the magnetic quantum number m, and for any value of j, there will be $2j+1$ values of m, proceeding by steps of one unit from $+j$ to $-j$. In other words, the effect of the field is to add equal increments of energy to the atom, the number of such increments being restricted to the number of orientations which the atom, in a particular state, can assume with respect to the field. This is equivalent to splitting up the term corresponding to the energy state into a group of equidistant components, each of which corresponds to an increment of added energy. The amount by which the components of a split term are separated from each other is given by the relation

$$\Delta\nu=\frac{\mu}{j}\frac{H}{h}m$$

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[2] Annalen der Physik, **63**, p. 221; 1920.

[3] Zeitschrift für Physik, **5**, p. 231, 1921; **15**, p. 189, 1923.

[4] Linienspektren und periodisches System der Elemente, Berlin, Julius Springer; 1927.

in which μ is the magnetic moment of the atom, H is the strength of the magnetic field, h is Planck's constant, and m and j have the meanings defined above. Expressed in terms of the normal Zeeman triplet, this reduces to

$$\Delta\nu = \frac{\mu}{j} m = g m$$

The ratio of the magnetic to the mechanical moment of the atom $\mu/j = g$ is Landé's splitting factor. By a process of induction based on the g values of known terms Landé was able to set up a formula expressing g as a function of the quantum numbers which specify a spectral term. This formula has been found to hold, generally, for terms of all types and multiplicities, and expressed in notation of current usage (Sommerfeld's[5]) is

$$g = 1 + \frac{j(j+1) + s(s+1) - l(l+1)}{2j(j+1)}$$

As an illustrative problem, let it be required to find the g value of the term $^5F_4$. Here $j=4$, $s=\frac{r-1}{2}=2$ and $l=3$. Substitution of these values in the formula gives $g = 1 + \frac{14}{40} = \frac{54}{40} = \frac{27}{20}$. By such a procedure tables of g values have been constructed which may be found in any one of a number of works.[6]

When the atom in the magnetic field radiates light the components of one magnetically resolved term group combine with those of another such group in accordance with the rules governing the combination. Each component term is specified by a particular value of the magnetic quantum number m and only those combinations occur for which the change in m is ± 1 or 0, with the requirement that the combination of two terms for each of which $m = 0$ is forbidden. If two terms combine for which $\Delta m = \pm 1$ the radiated light is circularly polarized and the components of the Zeeman pattern perpendicular to the field are observed. If $\Delta m = 0$ the radiated light is plane polarized and the parallel components are observed. As illustrations, let it be required to calculate the theoretical Zeeman patterns of the term combinations (*a*), $^5F_3 - {}^5G_4$, (*b*), $^4D_3 - {}^4F_3$.

[5] Three lectures on atomic physics. Lecture II, London. Methuen & Co.; 1926.

[6] Back u. Landé, Zeemaneffekt und Multiplettstruktur der Spektrallinien, p. 42, Berlin, Julius Springer: 1925. Sommerfeld, Atombau. 4th ed., p. 623, Braunschweig, Vieweg & Sohn: 1924. Zeeman and De Bruin, Handbuch der Physikalischen Optik, **2**, p. 638: 1927.

(*a*) The g values for $^5F_3$ and $^5G_4$ are $\frac{15}{12}$ and $\frac{23}{20}$, or $\frac{75}{60}$ and $\frac{69}{60}$. For $^5F_3$ the magnetic quantum number m runs from -3 to $+3$, and for $^5G_4$ from -4 to $+4$. We have the following values of mg for each term:

m	-4	-3	-2	-1	0	$+1$	$+2$	$+3$	$+4$
$^5F_3$		$-\frac{225}{60}$	$-\frac{150}{60}$	$-\frac{75}{60}$	$\frac{0}{60}$	$+\frac{75}{60}$	$+\frac{150}{60}$	$+\frac{225}{60}$	
$^5G_4$	$-\frac{276}{60}$	$-\frac{207}{60}$	$-\frac{138}{60}$	$-\frac{69}{60}$	$\frac{0}{60}$	$+\frac{69}{60}$	$+\frac{138}{60}$	$+\frac{207}{60}$	$+\frac{276}{60}$

By subtracting the fractions of the lower row from those above, first vertically and then diagonally, we get, respectively, the components of the Zeeman pattern for which $\Delta m = 0$ and $\Delta m = \pm 1$. The collected results are expressed as

$$\frac{\pm(\mathbf{0},\ 6,\ 12,\ 18)\ \mathbf{51},\ 57,\ 63,\ 69,\ 75,\ 81,\ 87}{60} = \pm(\mathbf{0.00},\ 0.10,\ 0.20,\ 0.30)\ \mathbf{0.85},\ 0.95,\ 1.05,\ 1.15,\ 1.25,\ 1.35,\ 1.45$$

the parallel components being the ones inclosed in ( ), the perpendicular components following.

(*b*) The g values are $\frac{48}{35}$ and $\frac{36}{35}$ for $^4D_3$ and $^4F_3$.

NOTE.—The inner quantum numbers of terms of even multiplicity are half-integers. For convenience in printing the integer greater by 1/2 than the proper inner quantum number is used throughout this paper.

The labor of computation is diminished by using the decimal equivalents of the g's, especially if a table of products or a slide rule are available. Thus, since

$$\frac{48}{35} = 1.371 \text{ and } \frac{36}{35} = 1.029$$

m	$-\frac{5}{2}$	$-\frac{3}{2}$	$-\frac{1}{2}$	$+\frac{1}{2}$	$+\frac{3}{2}$	$+\frac{5}{2}$
$^4D_3$	-3.43	-2.06	-0.69	$+0.69$	$+2.06$	$+3.43$
$^4F_3$	-2.57	-1.54	$-.52$	$+.52$	$+1.54$	$+2.57$

Whence, taking vertical differences for parallel components, and diagonal differences for perpendicular components, we obtain

$$\pm(0.17,\ 0.51,\ \mathbf{0.86})\ 0.51,\ 0.86,\ \mathbf{1.20},\ 1.54,\ 1.89$$

The components printed in heavy type are the most intense. These are the ones, according to Landé, which correspond to the maximum angle between the axis of j and the direction of the field for parallel components, and to the minimum angle for perpendicular components.

In determining these, the following practical rules hold. In case the j's of the combining terms are not equal, problem (a) above, the vertical differences in the middle of the scheme and the diagonal differences at the ends give, respectively, the strongest p and n components. In case the j's are equal, problem (b), the vertical differences at the end of the scheme and the diagonal differences at the center give, respectively, the strongest p and n components, with the added requirement that for terms of odd multiplicity the p components corresponding to the transition $m=0$ to $m=0$ are forbidden; that is, their intensity is zero.

Workers, engaged in classifying spectra, find it convenient to have at hand tables of Zeeman effects for the various term combinations. During the past five years such tables have been calculated from time to time at the Bureau of Standards, according to the requirements of the spectrum under investigation. These tables are now extensive enough to cover all possible term combinations which are likely to occur in the spectra of elements other than the rare earths. For certain elements there is some evidence that g values differing from those given by the formula above will be required, but the exact law governing such anomalous values is not yet known. For these reasons, it is believed that these tables for the normal g values will be useful because of their completeness, and their publication will save the unnecessary time and labor of duplication on the part of others.

The tables for each series system are preceded by a table of g values for that system which differ from those referred to above only in that the fractions in each vertical column have all been converted to the same common denominator. When this is done, an inspection of the tables shows simple relations between the numerators and denominators of the g's not only in the vertical columns, but also in the horizontal and diagonal rows, which permit writing down additional g values without recourse to the above formula.

The art of observation has not sufficed to separate Zeeman patterns whose components differ by less than $\frac{1}{5}a$, for sources in air, or by less than $\frac{1}{10}a$ for vacuum sources, a being the normal triplet separation. The result is that many observed patterns represent the blending of overlapping images, so that in order to interpret them, the theoretical patterns of the following tables must be somewhat modified. Such a procedure was adopted by Russell [7] in inter-

[7] Astrophysical J. **66**, p. 307; 1927.

preting observed Zeeman effects of Ti. Weighting the lines according to their theoretical intensities, as done by Hönl,[8] he found that by placing the center of an unresolved group at one-fourth the way from the strongest to the weakest component, modified theoretical patterns could be derived which would satisfactorily fit those observed.

Although it is the purpose of the following tables to furnish an interpretation of any observed Zeeman effect, yet it sometimes happens that a pattern is encountered which deviates from the theoretical patterns to an extent that makes its identification uncertain. In such a case, it is often helpful to determine the g values of the combining terms from the observed pattern and thereby arrive at an identification of the terms. This procedure has been well illustrated by Back;[9] it involves the solution of two simple linear equations with two unknown quantities. Let g_x and g_y be the g's of the unknown terms with inner quantum numbers j_x and j_y, and let m_x and $m_y = m_x \pm 1$ be the magnetic quantum numbers corresponding to the terms which give the n components of maximum intensity. Further, let e represent the mean separation of the components of the observed pattern, and let $2f$ be the separation of the n components of maximum intensity. Then, in case j_x and j_y are not equal, the two equations are

$$g_x - g_y = \pm e$$

$$m_x g_x - m_y g_y = \pm f$$

In case j_x equals j_y then, owing to the fact that the strong n components are given by the diagonal differences at the center of the pattern, the values of the magnetic quantum numbers are $m_y = \pm 1$ for $m_x = 0$, or $m_y = 0$ for $m_x = \pm 1$, for terms of odd multiplicity; and $m_y = \pm 1/2$ for $m_x = \mp 1/2$ for terms of even multiplicity. In the case of odd multiplicity terms there will be, in general, two n components of the same maximum intensity and accordingly two values of $2f$. The equations to be solved are therefore·

odd multiplicity

$$g_x - g_y = \pm e = \pm (f_2 - f_1)$$

$$g_x = f_1$$

$$g_y = f_2$$

even multiplicity

$$g_x - g_y = \pm e$$

$$1/2 g_x - 1/2 g_y = \pm f$$

[8] Zeitschrift für Physik, **31**, p. 340; 1925.

[9] Zeitschrift für Physik, **15**, p. 206;

In illustration of the above, let it be required to find the g values of the terms which combine to produce the Cb arc lines 4123.86 and 4163.64, for which Jack [10] observed the Zeeman effects

(*a*) (**0.32**, 0.90) **0.47**, 1.02, 1.58, 2.18

(*b*) (——, **1.18**) 0.66, **1.46**, 2.24

The terms are of even multiplicity, (*a*) representing a combination for which $j_x \neq j_y$ and (*b*) a combination for which $j_x = j_y$
For (*a*), we have

$$e = \pm 0.57;\ f = \pm 0.47$$

$$\therefore g_x - g_y = \pm 0.57$$

$$\frac{3}{2}g_x - \frac{5}{2}g_y = \mp 0.47$$

whence

$$g_x = 1.90 \text{ corresponding to } \frac{28}{15}\ (^6D_2)$$

and

$$g_y = 1.33 \text{ corresponding to } \frac{4}{3} \text{ or } \frac{46}{35}\ (^6F_3)$$

For (*b*) we have

$$e = \pm 0.79,\ f = \pm 1.46$$

$$\therefore g_x - g_y = \pm 0.79$$

$$1/2g_x + 1/2g_y = \pm 1.46$$

whence

$$g_x = 1.86 \text{ corresponding to } \frac{28}{15}\ (^6D_2)$$

and

$$g_y = 1.07 \text{ corresponding to } \frac{16}{15}\ (^6F_2)$$

To facilitate the identification of the terms corresponding to computed g values, as in the foregoing problems, Tables 14 and 15 have been compiled.

In conclusion we wish to acknowledge our indebtedness to Prof. H. N. Russell, of Princeton University, who kindly checked our tables with those computed by him.

[10] Proc. Roy. Irish Acad., **30A**, p. 42; 1912.

II. TABLES

TABLE 1.—*Theoretical Zeeman effects (doublet system)*

[Landé g values]

l \ j	1	2	3	4	5	6	7	1	2	3	4	5	6	7
S	$\frac{6}{3}$							2.000						
P	$\frac{2}{3}$	$\frac{20}{15}$						0.667	1.333					
D		$\frac{12}{15}$	$\frac{42}{35}$						0.800	1.200				
F			$\frac{30}{35}$	$\frac{72}{63}$						0.857	1.143			
G				$\frac{56}{63}$	$\frac{110}{99}$						0.889	1.111		
H					$\frac{90}{99}$	$\frac{156}{143}$						0.909	1.091	
I						$\frac{132}{143}$	$\frac{210}{195}$						0.923	1.077

$^2S_1$–$^2S'_1$ (0.00), 2.00.

$^2S_1$–$^2P_1$ (0.67), 1.33.
$^2S_1$–$^2P_2$ (0.33), **1.00,** 1.67.

$^2S_1$–$^2D'_2$ (0.60), **0.20,** 1.40.

$^2P_1$–$^2P'_1$ (0.00), 0.67.
$^2P_1$–$^2P'_2$ }
$^2P_2$–$^2P'_1$ } (0.33), 1.00, **1.67.**
$^2P_2$–$^2P'_2$ (0.00), 1.33.

$^2P_1$–$^2D_2$ (0.07), 0.73, **0.87.**
$^2P_2$–$^2D_2$ (0.27, **0.80**), 0.53, **1.07,** 1.60.
$^2P_2$–$^2D_3$ (**0.07,** 0.20), **1.00,** 1.13, 1.27, 1.40.

$^2P_2$–$^2F'_3$ (**0.24,** 0.71), **0.14,** 0.62, 1.09, 1.57.

$^2D_2$–$^2D'_2$ (0.00), 0.80.
$^2D_2$–$^2D'_3$ }
$^2D_3$–$^2D'_2$ } (**0.20,** 0.60), 0.60, 1.00, 1.40, **1.80.**
$^2D_3$–$^2D'_2$ (0.00), 1.20.

$^2D_2$–$^2F_3$ (**0.03,** 0.09), 0.77, 0.83, 0.89, **0.94.**
$^2D_3$–$^2F_3$ (0.17, 0.51, **0.86**), 0.34, 0.69, **1.03,** 1.37, 1.71.
$^2D_3$–$^2F_4$ (**0.03,** 0.09, 0.14), **1.00,** 1.06, 1.11, 1.17, 1.23, 1.28.

$^2D_3$–$^2G'_4$ (**0.16,** 0.47, 0.78), **0.11,** 0.42, 0.73, 1.04, 1.35, 1.67.

$^2F_3$–$^2F'_3$ (0.00), 0.86.
$^2F_3$–$^2F'_4$ }
$^2F_4$–$^2F'_3$ } (**0.14,** 0.43, 0.71), 0.43, 0.71, 1.00, 1.28, 1.57, **1.86.**
$^2F_4$–$^2F'_4$ (0.00), 1.14.

$^2F_3$–$^2G_4$ (**0.02,** 0.05, 0.08), 0.81, 0.84, 0.87, 0.90, 0.94, **0.97.**
$^2F_4$–$^2G_4$ (0.13, 0.38, 0.64, **0.89**), 0.25, 0.51, 0.76, **1.02,** 1.27, 1.52, 1.78.
$^2F_4$–$^2G_5$ (**0.02,** 0.05, 0.08, 0.11), **1.00,** 1.03, 1.06, 1.10, 1.13, 1.16, 1.19, 1.22.

$^2F_4$–$^2H'_5$ (**0.12,** 0.35, 0.58, 0.82), **0.09,** 0.32, 0.56, 0.79, 1.03, 1.26, 1.49, 1.73.

$^2G_4$–$^2G'_4$ (0.00), 0.89.
$^2G_4$–$^2G'_5$ }
$^2G_5$–$^2G'_4$ } (**0.11,** 0.33, 0.56, 0.78), 0.33, 0.56, 0.78, 1.00, 1.22, 1.44, 1.67, **1.89.**
$^2G_5$–$^2G'_5$ (0.00), 1.11.

$^2G_4$–$^2H_5$ (**0.01,** 0.03, 0.05, 0.07), 0.84, 0.86, 0.88, 0.90, 0.92, 0.94, 0.96, **0.98.**
$^2G_5$–$^2H_5$ (0.10, 0.30, 0.50, 0.71, **0.91**), 0.20, 0.40, 0.61, 0.81, **1.01,** 1.21, 1.41, 1.62, 1.82.
$^2G_5$–$^2H_6$ (**0.01,** 0.03, 0.05, 0.07, 0.09), **1.00,** 1.02, 1.04, 1.06, 1.08, 1.10, 1.12, 1.14, 1.16, 1.18.

$^2G_5$–$^2I'_6$ (**0.09,** 0.28, 0.47, 0.66, 0.85), **0.08,** 0.26, 0.45, 0.64, 0.83, 1.02, 1.21, 1.39, 1.58, 1.77.

TABLE 1.—*Theoretical Zeeman effects (doublet system)*—Continued

$^2H_5$–$^2H'_5$ (0.00), 0.91.

$^2H_5$–$^2H'_6$
$^2H_6$–$^2H'_5$ (**0.09,** 0.27, 0.45, 0.64, 0.82), 0.27, 0.45, 0.64, 0.82, 1.00, 1.18, 1.36, 1.54, 1.73, **1.91.**

$^2H_6$–$^2H'_6$ (0.00), 1.09.

$^2H_5$–$^2I_6$ (**0.01,** 0.02, 0.03, 0.05, 0.06), 0.86, 0.88, 0.89, 0.90, 0.92, 0.93, 0.94, 0.96, 0.97, **0.98.**
$^2H_6$–$^2I_6$ (0.08, 0.25, 0.42, 0.59, 0.76, **0.92**), 0.17, 0.34, 0.50, 0.67, 0.84, **1.01,** 1.17, 1.34, 1.51, 1.68, 1.85.
$^2H_6$–$^2I_7$ (**0.01,** 0.02, 0.03, 0.05, 0.06, 0.08), **1.00,** 1.01, 1.03, 1.04, 1.05, 1.06, 1.08, 1.10, 1.11, 1.12, 1.14, 1.15.

$^2I_6$–$^2I'_6$ (0.00), 0.92.

$^2I_6$–$^2I'_7$
$^2I_7$–$^2I'_6$ (**0.08,** 0.23, 0.38, 0.54, 0.69, 0.85), 0.23, 0.38, 0.54, 0.69, 0.85, 1.00, 1.15, 1.31, 1.46, 1.61, 1.77, **1.92.**

$^2I_7$–$^2I'_7$ (0.00), 1.08.

TABLE 2.—*Theoretical Zeeman effects (quartet system)*

[Landé *g* values]

l \ *j*	1	2	3	4	5	6	7	8
S		$\frac{30}{15}$						
P	$\frac{8}{3}$	$\frac{26}{15}$	$\frac{66}{35}$					
D	$\frac{0}{3}$	$\frac{18}{15}$	$\frac{48}{35}$	$\frac{90}{63}$				
F		$\frac{6}{15}$	$\frac{36}{35}$	$\frac{78}{63}$	$\frac{132}{99}$			
G			$\frac{70}{35}$	$\frac{92}{63}$	$\frac{116}{99}$	$\frac{182}{143}$		
H				$\frac{42}{63}$	$\frac{96}{99}$	$\frac{152}{143}$	$\frac{240}{195}$	
I					$\frac{72}{99}$	$\frac{138}{143}$	$\frac{216}{195}$	$\frac{306}{255}$

l \ *j*	1	2	3	4	5	6	7	8
S		2.000						
P	2.667	1.733	1.600					
D	0.000	1.200	1.371	1.429				
F		0.400	1.029	1.238	1.333			
G			0.571	0.984	1.172	1.273		
H				0.667	0.970	1.133	1.231	
I					0.727	0.965	1.108	1.200

$^4S_2$–$^4S'_2$ (0.00), 2.00.

$^4S_2$–$^4P_1$ (0.33), **1.67,** 2.33.
$^4S_2$–$^4P_2$ (0.13, **0.40**), 1.60, **1.87,** 2.13.
$^4S_2$–$^4P_3$ (**0.20,** 0.60), **1.00,** 1.40, 1.80, 2.20.

$^4S_2$–$^4D'_1$ (1.00), 1.00, **3.00.**
$^4S_2$–$^4D'_2$ (0.40, **1.20**), 0.80, **1.60,** 2.40.
$^4S_2$–$^4D'_3$ (**0.31,** 0.94), **0.43,** 1.06, 1.68, 2.31.

$^4S_2$–$^4F_2$ (0.80, **2.40**), −0.40, +**1.20,** 2.80.
$^4S_2$–$^4F_3$ (**0.49,** 1.46), −**0.43,** +0.54, 1.51, 2.48.

$^4P_1$–$^4P'_1$ (0.00), 2.67.
$^4P_1$–$^4P'_2$
$^4P_2$–$^4P'_1$ (0.47), **1.27,** 2.20.
$^4P_2$–$^4P'_2$ (0.00), 1.73.
$^4P_2$–$^4P'_3$
$^4P_3$–$^4P'_2$ (**0.07,** 0.20), **1.40,** 1.54, 1.67, 1.80.
$^4P_3$–$^4P'_3$ (0.00), 1.60.

$^4P_1$–$^4D_1$ (1.33), 1.33.
$^4P_1$–$^4D_2$ (0.73), **0.47,** 1.93.
$^4P_2$–$^4D_1$ (0.87), 0.87, **2.60.**
$^4P_2$–$^4D_2$ (0.27, **0.80**), 0.93, **1.47,** 2.00.
$^4P_2$–$^4D_3$ (**0.18,** 0.54), **0.83,** 1.19, 1.55, 1.92.
$^4P_3$–$^4D_2$ (**0.20,** 0.60), 1.00, 1.40, 1.80, **2.20.**
$^4P_3$–$^4D_3$ (0.11, 0.34, **0.57**), 1.03, 1.26, **1.48,** 1.72, 1.94.
$^4P_3$–$^4D_4$ (**0.09,** 0.26, 0.43), **1.09,** 1.17, 1.34, 1.52, 1.68, **1.86.**

$^4P_1$–$^4F'_2$ (1.13), **0.73,** 1.53.
$^4P_2$–$^4F'_2$ (0.67, **2.00**), −0.27, +**1.07,** 2.40.
$^4P_2$–$^4F'_3$ (**0.35,** 1.06), −**0.03,** +0.68, 1.38, 2.09.
$^4P_3$–$^4F'_2$ (**0.60,** 1.80), −0.20, +1.00, 2.20, **3.40.**
$^4P_3$–$^4F'_3$ (0.29, 0.86, **1.43**), 0.17, 0.74, **1.31,** 1.89, **2.46.**
$^4P_3$–$^4F'_4$ (**0.18,** 0.54, 0.90), **0.35,** 0.70, 1.05, 1.42, 1.78, **2.14.**

TABLE 2.—*Theoretical Zeeman effects (quartet system)*—Continued

$^4P_2$–$^4G_3$ (**0.58**, 1.74), −**1.17**, −0.01, +1.15, 2.31.
$^4P_3$–$^4G_3$ (0.52, 1.54, **2.57**), −0.97, +0.06, **1.08**, 2.11, 3.14.
$^4P_3$–$^4G_4$ (**0.31**, 0.93, 1.54), −**0.55**, +0.06, 0.68, 1.29, 1.91, 2.52.

$^4D_1$–$^4D'_1$ (0.00), 0.00, unaffected.
$^4D_1$–$^4D'_2$, $^4D_2$–$^4D'_1$ (0.60), 0.60, **1.80.**
$^4D_2$–$^4D'_2$ (0.00), 1.20.
$^4D_2$–$^4D'_3$, $^4D_3$–$^4D'_2$ (**0.69**, 0.26), 1.12, 1.28, 1.46, **1.63.**
$^4D_3$–$^4D'_3$ (0.00), 1.37.
$^4D_3$–$^4D'_4$, $^4D_4$–$^4D'_3$ (**0.03**, 0.09, 0.14), 1.28, 1.34, 1.40, 1.46, 1.51, **1.57.**
$^4D_4$–$^4D'_4$ (0.00), 1.43.

$^4D_1$–$^4F_2$ (0.20), 0.20, **0.60.**
$^4D_2$–$^4F_2$ (0.40, **1.20**), 0.00, **0.80**, 1.60.
$^4D_2$–$^4F_3$ (**0.09**, 0.26), **0.77**, 0.94, 1.12, 1.29.
$^4D_3$–$^4F_2$ (**0.49**, 1.46), −0.09, +**0.88**, 1.86, **2.83.**
$^4D_3$–$^4F_3$ (0.17, 0.51, **0.86**), 0.51, 0.86, **1.20**, 1.54, 1.89.
$^4D_3$–$^4F_4$ (**0.07**), 0.20, 0.33), **0.91**, 1.04, 1.17, 1.30, 1.43, 1.57.
$^4D_4$–$^4F_3$ (**0.20**, 0.60, 1.00), 0.43, 0.83, 1.23, 1.63, 2.03, **2.43.**
$^4D_4$–$^4F_4$ (0.10, 0.29, 0.48, **0.67**), 0.76, 0.95, 1.14, **1.33**, 1.52, 1.72, 1.90.
$^4D_4$–$^4F_5$ (**0.05**, 0.14, 0.24, 0.33), **1.00**, 1.10, 1.19, 1.29, 1.38, 1.48, 1.57, **1.67.**

$^4D_2$–$^4G'_3$ (**0.31**, 0.94), −**0.37**, +0.26, 0.89, 1.52.
$^4D_3$–$^4G'_3$ (0.40, 1.20, **2.00**), −0.63, +0.17, **0.97**, 1.77, 2.57.
$^4D_3$–$^4G'_4$ (**0.19**, 0.58, 0.97), **0.02**, 0.40, 0.79, 1.18, 1.57, 1.95.
$^4D_4$–$^4G'_3$ (**0.43**, 1.29, 2.14), −0.71, +0.14, 1.00, 1.85, 2.71, **3.57.**
$^4D_4$–$^4G'_4$ (0.22, 0.67, 1.11, **1.56**), −0.13, +0.32, 0.76, **1.21**, 1.65, 2.10, 2.54.
$^4D_4$–$^4G'_5$ (**0.13**, 0.38, 0.64, 0.90), **0.37**, 0.53, 0.79, 1.04, 1.30, 1.56, 1.81, 2.07.

$^4D_3$–$^4H_4$ (**0.35**, 1.06, 1.76), −**1.09**, −0.39, +0.31, 1.02, 1.73, 2.42.
$^4D_4$–$^4H_4$ (0.38, 1.14, 1.90, **2.66**), −1.24, −0.48, +0.29, **1.05**, 1.81, 2.57, 3.33.
$^4D_4$–$^4H_5$ (**0.23**, 0.69, 1.15, 1.61), −**0.64**, −0.18, +0.28, 0.74, 1.20, 1.66, 2.12, 2.58.

$^4F_2$–$^4F'_2$ (0.00), 0.40.
$^4F_2$–$^4F'_3$, $^4F_3$–$^4F'_2$ (**0.31**, 0.94), 0.09, 0.71, 1.34, **1.97.**
$^4F_3$–$^4F'_3$ (0.00), 1.03.
$^4F_3$–$^4F'_4$, $^4F_4$–$^4F'_3$ (**0.10**, 0.31, 0.52), 0.72, 0.92, 1.13, 1.34, 1.55, **1.76.**
$^4F_4$–$^4F'_4$ (0.00), 1.24.
$^4F_4$–$^4F'_5$, $^4F_5$–$^4F'_4$ (**0.05**, 0.14, 0.24, 0.33), 1.00, 1.09, 1.19, 1.28, 1.38, 1.48, 1.57, **1.67.**
$^4F_5$–$^4F'_5$ (0.00), 1.33.

$^4F_2$–$^4G_3$ (**0.09**, 0.26), 0.31, 0.49, 0.66, **0.83.**
$^4F_3$–$^4G_3$ (0.23, 0.69, **1.14**), −0.11, +0.34, **0.80**, 1.26, 1.72.
$^4F_3$–$^4G_4$ (**0.02**, 0.07, 0.11), **0.87**, 0.92, 0.96, 1.01, 1.05, 1.10.
$^4F_4$–$^4G_3$ (**0.33**, 1.00, 1.67), −0.43, +0.24, 0.90, 1.57, 2.24, **2.90.**
$^4F_4$–$^4G_4$ (0.13, 0.38, 0.64, **0.89**), 0.35, 0.60, 0.86, **1.11**, 1.37, 1.62, 1.87.
$^4F_4$–$^4G_5$ (**0.03**, 0.10, 0.17, 0.23) **0.94**, 1.01, 1.07, 1.14, 1.21, 1.27, 1.34, 1.40.
$^4F_5$–$^4G_4$ (**0.17**, 0.52, 0.87, 1.22), 0.11, 0.46, 0.81, 1.16, 1.51, 1.86, 2,20, **2.56.**
$^4F_5$–$^4G_5$ (0.08, 0.24, 0.40, 0.57, **0.73**), 0.61, 0.77, 0.93, 1.09, **1.25**, 1.42, 1.58, 1,74, 1.90.
$^4F_5$–$^4G_6$ (**0.03**, 0.09, 0.15, 0.21, 0.27), **1.00**, 1,06 1.12, 1.18, 1.24, 1.30, 1.36, 1.42, 1.49, 1.55.

$^4F_3$–$^4H'_4$ (**0.18**, 0.54, 0.90), −**0.24**, +0.12, 0.49, 0.85, 1.21, 1.57.
$^4F_4$–$^4H'_4$ (0.29, 0.86, 1.43, **2.00**), −0.76, −0.19, +0.38, **0.95**, 1.52, 2.10, 2.68.
$^4F_4$–$^4H'_5$ (**0.13**, 0.40, 0.67, 0.94), **0.03**, 0.30, 0.57, 0.84, 1.10, 1.37, 1.64, 1.91.
$^4F_5$–$^4H'_4$ (**0.33**, 1.00, 1.67, 2.33), −1.00, −0.33, +0.33, 1.00, 1.67, 2.33, 3.00, **3.67.**
$^4F_5$–$^4H'_5$ (0.18, 0.55, 0.91, 1.27, **1.64**), −0.30, +0.06, 0.42, 0.79, **1.15**, 1.51, 1.88, 2.24, 2.61.
$^4F_5$–$^4H'_6$ (**0.10**, 0.30, 0.50, 0.70, 0.90), **0.23**, 0.43, 0.63, 0.83, 1.03, 1.23, 1.43, 1.63, 1.83, 2.03.

$^4F_4$–$^4I_5$ (**0.26**, 0.77, 1.28, 1.79), −**1.06**, −0.55, −0.04, +0.47, 0.98, 1.49, 2.00, 2.52.
$^4F_5$–$^4I_5$ (0.30, 0.91, 1.52, 2.13, **2.74**), −1.40, −0.79, −0.19, +0.42, **1.03**, 1.64, 2.24, 2.85, 3.46.
$^4F_5$–$^4I_6$ (**0.18**, 0.55, 0.92, 1.29, 1.66), −**0.69**, −0.32, +0.04, 0.42, 0.78, 1.15, 1.52, 1.88, 2.25, 2.62.

TABLE 2.—*Theoretical Zeeman effects (quartet system)*—Continued

$^4G_3$–$^4G'_3$ (0.00), 0.57.

$^4G_3$–$^4G'_4$ / $^4G_4$–$^4G'_3$ (**0.21,** 0.62, 1.03), −0.05, +0.37, 0.78, 1.19, 1.60, **2.01.**

$^4G_4$–$^4G'_4$ (0.00), 0.99.

$^4G_4$–$^4G'_5$ / $^4G_5$–$^4G'_4$ (**0.09,** 0.28, 0.47, 0.66), 0.52, 0.70, 0.89, 1.08, 1.27, 1.45, 1.64, **1.83.**

$^4G_5$–$^4G'_5$ (0.00), 1.17.

$^4G_5$–$^4G'_6$ / $^4G_6$–$^4G'_5$ (**0.05,** 0.15, 0.25, 0.35, 0.45), 0.82, 0.92, 1.02, 1.12, 1.22, 1.32, 1.42, 1.53, 1.63, **1.73.**

$^4G_6$–$^4G'_6$ (0.00), 1.27.

$^4G_3$–$^4H_4$ (**0.05,** 0.14, 0.24), 0.43, 0.52, 0.62, 0.71, 0.81, **0.90.**

$^4G_4$–$^4H_4$ (0.16, 0.48, 0.79, **1.11**), −0.13, +0.19, 0.51, **0.83,** 1.14, 1.46, 1.78.

$^4G_4$–$^4H_5$ (**0.01,** 0.02, 0.04, 0.05), **0.92,** 0.93, 0.95, 0.96, 0.98, 0.99, 1.00, 1.02.

$^4G_5$–$^4H_4$ (**0.25,** 0.76, 1.26, 1.77), −0.60, −0.09, +0.41, 0.92, 1.42, 1.93, 2.44, **2.94.**

$^4G_5$–$^4H_5$ (0.10, 0.30, 0.50, 0.71, **0.91**), 0.26, 0.46, 0.67, 0.87, **1.07,** 1.27, 1.47, 1.68, 1.88.

$^4G_5$–$^4H_6$ (**0.02,** 0.06, 0.10, 0.14, 0.17), **0.96,** 1.00, 1.03, 1.07, 1.11, 1.15, 1.19, 1.23, 1.27, 1.31.

$^4G_6$–$^4H_5$ (**0.15,** 0.45, 0.76, 1.06, 1.36), −0.09, +0.21, 0.51, 0.82, 1.12, 1.42, 1.73, 2.03, 2,33, **2.64.**

$^4G_6$–$^4H_6$ (0.07, 0.21, 0.35, 0.49, 0.63, **0.77**), 0.50, 0.64, 0.78, 0.92, 1.06, **1.20,** 1.34, 1.48, 1.62, 1.76, 1.90.

$^4G_6$–$^4H_7$ (**0.02,** 0.06, 0.10, 0.15, 0.19, 0.23), **1.00,** 1.04, 1.08, 1.13, 1.17, 1.21, 1.25, 1.29, 1.33, 1.38, 1.42, 1.46.

$^4G_4$–$^4I'_5$ (**0.13,** 0.39, 0.64, 0.90), **−0.17,** +0.08, 0.34, 0.60, 0.86, 1.11, 1.37, 1.62.

$^4G_5$–$^4I'_5$ (0.22, 0.67, 1.11, 1.56, **2.00**), −0.83, −0.38, +0.06, 0.50, **0.95,** 1.39, 1.84, 2.28, 2.73.

$^4G_5$–$^4I'_6$ (**0.10,** 0.31, 0.52, 0.73, 0.93), **0.04,** 0.24, 0.45, 0.66, 0.86, 1.07, 1.27, 1.48, 1.69, 1.89.

$^4G_6$–$^4I'_5$ (**0.27,** 0.82, 1.36, 1.90, 2.45), −1.18, −0.64, −0.09, +0.45, 1.00, 1.55, 2.09, 2.64, 3.18, **3.73.**

$^4G_6$–$^4I'_6$ (0.15, 0.46, 0.77, 1.08, 1.38, **1.69**), −0.42, −0.11, 0.20, 0.50, 0.81, **1.12,** 1.43, 1.73, 2.04, 2.35, 2.66.

$^4G_6$–$^4I'_7$ (**0.08,** 0.25, 0.41, 0.58, 0.74, 0.91), **0.20,** 0.36, 0.53, 0.70, 0.86, 1.03, 1.19, 1.35, 1.52, 1.69, 1.85, 2.02.

$^4H_4$–$^4H'_4$(0.00), 0.67.

$^4H_4$–$^4H'_5$ / $^4H_5$–$^4H'_4$ (**0.15,** 0.45, 0.76, 1.06), −0.09, +0.21, 0.51, 0.82, 1.12, 1.42, 1.73, **2.03.**

$^4H_5$–$^4H'_5$ (0.00), 0.97.

$^4H_5$–$^4H'_6$ / $^4H_6$–$^4H'_5$ (**0.08,** 0.24, 0.41, 0.57, 0.73), 0.40, 0.56, 0.73, 0.89, 1.05, 1.21, 1.38, 1.54, 1.70, **1.87.**

$^4H_6$–$^4H'_6$ (0.00), 1.13.

$^4H_6$–$^4H'_7$ / $^4H_7$–$^4H'_6$ (**0.05,** 0.15, 0.24, 0.34, 0.44, 0.54), 0.69, 0.79, 0.89, 0.99, 1.08, 1.18, 1.28, 1.38, 1.48, 1.57, 1.67, **1.77.**

$^4H_7$–$^4H'_7$ (0.00), 1.23.

$^4H_4$–$^4I_5$ (**0.03,** 0.09, 0.15, 0.21), 0.52, 0.58, 0.64, 0.70, 0.76, 0.82, 0.88, **0.94.**

$^4H_5$–$^4I_5$ (0.12, 0.36, 0.61, 0.85, **1.09**), −0.12, +0.12, 0.36, 0.61, **0.85,** 1.09, 1.33, 1.58, 1.82.

$^4H_5$–$^4I_6$ (**0.00**, 0.01, 0.01, 0.02, 0.02), **0.94,** 0.95, 0.95, 0.96, 0.96, 0.97, 0.97, 0.98, 0.98, 0.99.

$^4H_6$–$^4I_5$ (**0.20,** 0.61, 1.01, 1.42, 1.83), −0.69, −0.29, +0.12, 0.53, 0.93, 1.33, 1.74, 2.15, 2.55, **2.96.**

$^4H_6$–$^4I_6$ (0.08, 0.25, 0.42, 0.59, 0.75, **0.92**), 0.21, 0.38, 0.55, 0.71, 0.88, **1.05,** 1.22, 1.38, 1.55, 1.72, 1.89.

$^4H_6$–$^4I_7$ (**0.01,** 0.04, 0.06, 0.09, 0.11, 0.14), **0.97,** 0.99, 1.02, 1.04, 1.07, 1.10, 1.12, 1.15, 1.17, 1.20, 1.22, 1.25.

$^4H_7$–$^4I_6$ (**0.13,** 0.40, 0.66, 0.93, 1.19, 1.46), −0. 23, +0.03, 0.30, 0.57, 0.83, 1.10, 1.36, 1.63, 1.89, 2.16, 2.43, **2.69.**

$^4H_7$–$^4I_7$ (0.06, 0.18, 0.31, 0.43, 0.55, 0.68, **0.80**), 0.44, 0.56, 0.68, 0.80, 0.92, 1.05, **1.17,** 1.29, 1.41, 1.54, 1.66, 1.78, 1.91.

$^4H_7$–$^4I_8$ (**0.02,** 0.05, 0.08, 0.11, 0.14, 0.17, 0.20), **1.00,** 1.03, 1.06, 1.09, 1.12, 1.15, 1.18, 1.22, 1.25, 1.28, 1.31, 1.34, 1.37, 1.40.

$^4I_5$–$^4I'_5$ (0.00), 0.73.

$^4I_5$–$^4I'_6$ / $^4I_6$–$^4I'_5$ (**0.01,** 0.36, 0.59, 0.83, 1.07), −0.10, +0.13, 0.37, 0.61, 0.84, 1.08, 1.32, 1.56, 1.79, **2.03.**

$^4I_6$–$^4I'_6$ (0.00), 0.97.

$^4I_6$–$^4I'_7$ / $^4I_7$–$^4I'_6$ (**0.07,** 0.21, 0.36, 0.50, 0.64, 0.78), 0.32, 0.47, 0.61, 0.75, 0.89, 1.04, 1.18, 1.32, 1.46, 1.60, 1.75, **1.89.**

$^4I_7$–$^4I'_7$ (0.00), 1.11.

$^4I_7$–$^4I'_8$ / $^4I_8$–$^4I'_7$ (**0.05,** 0.14, 0.23, 0.32, 0.42, 0.51, 0.60), 0.60, 0.69, 0.78, 0.88, 0.97, 1.06, 1.15, 1.25, 1.34, 1.43, 1.52, 1.62, 1.71, **1.80.**

$^4I_8$–$^4I'_8$ (0.00), 1.20.

TABLE 3.—*Theoretical Zeeman effects (sextet system)*

[Landé g values]

l \ j	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
S			$\frac{70}{35}$									2.000						
P		$\frac{28}{15}$	$\frac{66}{35}$	$\frac{108}{63}$							2.400	1.886	1.714					
D	$\frac{10}{3}$	$\frac{28}{15}$	$\frac{68}{35}$	$\frac{100}{63}$	$\frac{154}{99}$					3.333	1.867	1.657	1.587	1.556				
F	$-\frac{2}{3}$	$\frac{16}{15}$	$\frac{46}{35}$	$\frac{88}{63}$	$\frac{142}{99}$	$\frac{208}{143}$				−0.667	1.067	1.314	1.397	1.434	1.455			
G		$\frac{0}{15}$	$\frac{30}{35}$	$\frac{78}{63}$	$\frac{130}{99}$	$\frac{182}{143}$	$\frac{270}{195}$				0.000	0.857	1.143	1.273	1.343	1.385		
H			$\frac{10}{35}$	$\frac{32}{63}$	$\frac{106}{99}$	$\frac{172}{143}$	$\frac{260}{195}$	$\frac{340}{255}$				0.286	0.825	1.071	1.203	1.282	1.333	
I				$\frac{28}{63}$	$\frac{82}{99}$	$\frac{148}{143}$	$\frac{236}{195}$	$\frac{316}{255}$	$\frac{418}{323}$				0.444	0.828	1.035	1.159	1.239	1.294

TABLE 3.—*Theoretical Zeeman effects (sextet system)*—Continued

$^6S_3$–$^6S'_3$ (0.00), 2.00.

$^6S_3$–$^6P_2$ (**0.20,** 0.60), **1.40,** 1.80, 2.20, 2.60.
$^6S_3$–$^6P_3$ (0.06, 0.17, **0.29**), 1.71, 1.83, **1.94,** 2.06, 2.17.
$^6S_3$–$^6P_4$ (**0.14,** 0.43, 0.71), **1.00,** 1.29, 1.57, 1.86, 2.14, 2.43.

$^6S_3$–$^6D'_2$ (**0.07,** 0.20), 1.80, 1.93, 2.07, **2.20.**
$^6S_3$–$^6D'_3$ (0.17, 0.51, **0.86**), 1.14, 1.49, **1.83,** 2.17, 2.51.
$^6S_3$–$^6D'_4$ (**0.21,** 0.62, 1.03), **0.56,** 0.97, 1.38, 1.79, 2.21, 2.62.

$^6S_3$–$^6F_2$ (**0.47,** 1.40),**0.60,** 1.53, 2.46, 3.40.
$^6S_3$–$^6F_3$ (0.34, 1.03, **1.71**), 0.29, 0.97, **1.66,** 2.34, 3.03.
$^6S_3$–$^6F_4$ (**0.30,** 0.90, 1.50), **−0.11**, +0.50, 1.10, 1.70, 2.30, 2.90.

$^6P_2$–$^6P'_2$ (0.00), 2.40.
$^6P_2$–$^6P'_3$, $^6P_3$–$^6P'_2$ (**0.26,** 0.77), **1.11,** 1.63, 2.14, 2.66.
$^6P_3$–$^6P'_3$ (0.00), 1.89.
$^6P_3$–$^6P'_4$, $^6P_4$–$^6P'_3$ (**0.09,** 0.26, 0.43), **1.29,** 1.46, 1.63, 1.80, 1.97, 2.14.
$^6P_4$–$^6P'_4$ (0.00), 1.71.

$^6P_2$–$^6D_1$ (0.47), **1.93,** 2.87.
$^6P_2$–$^6D_2$ (0.27, **0.80**), 1.60, **2.13,** 2.67.
$^6P_2$–$^6D_3$ (**0.37,** 1.12), **0.54,** 1.29, 2.03, 2.77.
$^6P_3$–$^6D_2$ (**0.01,** 0.03), 1.86, 1.88, 1.90, **1.92.**
$^6P_3$–$^6D_3$ (0.11, 0.34, **0.57**), 1.31, 1.54, **1.77,** 2.00, 2.23.
$^6P_3$–$^6D_4$ (**0.15,** 0.45, 0.75), **0.84,** 1.14, 1.44, 1.74, 2.03, 2.33.
$^6P_4$–$^6D_3$ (**0.03,** 0.09, 0.14), 1.57, 1.63, 1.68, 1.74, 1.80, **1.86.**
$^6P_4$–$^6D_4$ (0.06, 0.19, 0.32, **0.44**), 1.27, 1.40, 1.52, **1.65,** 1.78, 1.91, 2.03.
$^6P_4$–$^6D_5$ (**0.08,** 0.24, 0.40, 0.56), **1.00,** 1.16, 1.32, 1.48, 1.63, 1.79, 1.95, 2.11.

$^6P_2$–$^6F'_1$ (**1.53**), 0.87, 3.94.
$^6P_2$–$^6F'_2$ (0.67, **2.00**), 0.40, **1.73,** 3.07.
$^6P_2$–$^6F'_3$ (**0.54,** 1.63), **−0.31,** +0.77, 1.86, 2.94.
$^6P_3$–$^6F'_2$ (**0.41,** 1.23), 0.66, 1.47, 2.29, 3.11.
$^6P_3$–$^6F'_3$ (0.29, 0.86, **1.43**), 0.46, 1.03, **1.60,** 2.17, 2.74.
$^6P_3$–$^6F'_4$ (**0.24,** 0.73, 1.22), **0.17,** 0.66, 1.15, 1.64, 2.13, 2.62.
$^6P_4$–$^6F'_3$ (**0.20,** 0.60, 1.00), 0.71, 1.11, 1.51, 1.91, 2.32, **2.72.**
$^6P_4$–$^6F'_4$ (0.16, 0.48, 0.79, **1.11**), 0.60, 0.92, 1.24, **1.55,** 1.87, 2.19, 2.51.
$^6P_4$–$^6F'_5$ (**0.14,** 0.42, 0.70, 0.98), **0.45,** 0.73, 1.01, 1.29, 1.58, 1.85, 2.13, 2.42.

$^6P_2$–$^6G_2$ (1.20, **3.60**), **−1.20,** +1.20, 3.60.
$^6P_2$–$^6G_3$ (**0.77,** 2.31), **−1.46,** +0.09, 1.63, 3.16.
$^6P_3$–$^6G_2$ (**0.94,** 2.82), −0.94, +0.94, 2.82, **4.71.**
$^6P_3$–$^6G_3$ (0.51, 1.53, **2.58**), −0.68, +0.35, **1.37,** 2.40, 3.42.
$^6P_3$–$^6G_4$ (**0.37,** 1.11, 1.86), **−0.72,** +0.03, 0.77, 1.51, 2.25, 3.01.
$^6P_4$–$^6G_3$ (**0.43,** 1.29, 2.14), −0.43, +0.43, 1.28, 2.14, 3.00, **3.86.**
$^6P_4$–$^6G_4$ (0.29, 0.86, 1.43, **2.00**), −0.29, +0.29, 0.86, **1.43,** 2.00, 2.57, 3.14.
$^6P_4$–$^6G_5$ (**0.22,** 0.66, 1.10, 1.55), **−0.27,** +0.17, 0.61, 1.05, 1.49, 1.93, 2.37, 2.82.

$^6D_1$–$^6D'_1$ (0.00), 3.33.
$^6D_1$–$^6D'_2$, $^6D_2$–$^6D'_1$ (0.73), **1.14,** 2.60.
$^6D_2$–$^6D'_2$ (0.00), 1.87.
$^6D_2$–$^6D'_3$, $^6D_3$–$^6D'_2$ (**0.10,** 0.31), **1.34,** 1.55, 1.76, 1.97.
$^6D_3$–$^6D'_3$ (0.00), 1.66.
$^6D_3$–$^6D'_4$, $^6D_4$–$^6D'_3$ (**0.03,** 0.10, 0.17), **1.41,** 1.48, 1.55, 1.62, 1.69, 1.76.
$^6D_4$–$^6D'_4$ (0.00), 1.59.
$^6D_4$–$^6D'_5$, $^6D_5$–$^6D'_4$ (**0.02,** 0.05, 0.08, 0.11), **1.44,** 1.48, 1.51, 1.54, 1.57, 1.60, 1.63, 1.66.
$^6D_5$–$^6D'_5$ (0.00), 1.55.

$^6D_1$–$^6F_1$ (2.00), 1.33.
$^6D_1$–$^6F_2$ (1.13), **0.07,** 2.20.
$^6D_2$–$^6F_1$ (1.27), 0.60, **3.13.**
$^6D_2$–$^6F_2$ (0.40, **1.20**), 0.67, **1.47,** 2.27.
$^6D_2$–$^6F_3$ (**0.28,** 0.83), **0.49,** 1.04, 1.59, 2.14.
$^6D_3$–$^6F_2$ (**0.29,** 0.88), 0.77, 1.36, 1.95, **2.54.**
$^6D_3$–$^6F_3$ (0.17, 0.51, **0.86**), 0.80, 1.14, **1.49,** 1.83, 2.17.
$^6D_3$–$^6F_4$ (**0.13,** 0.39, 0.65), **0.75,** 1.01, 1.27, 1.53, 1.79, 2.05.

TABLE 3.—*Theoretical Zeeman effects (sextet system)*—Continued

$^6D_4$–$^6F_3$ (**0.14**, 0.41, 0.68), 0.90, 1.18, 1.45, 1.73, 2.00, **2.27**.
$^6D_4$–$^6F_4$ (0.10, 0.29, 0.48, **0.67**), 0.92, 1.11, 1.30, **1.49**, 1.68, 1.87, 2.06.
$^6D_4$–$^6F_5$ (**0.08**, 0.23, 0.38, 0.53), **0.90**, 1.05, 1.20, 1.36, 1.51, 1.66, 1.82, 1.97.
$^6D_5$–$^6F_4$ (**0.08**, 0.24, 0.40, 0.56), 1.00, 1.16, 1.32, 1.48, 1.63, 1.79, 1.95, **2.11.**
$^6D_5$–$^6F_5$ (0.06, 0.18, 0.30, 0.42, **0.55**), 1.01, 1.13, 1.25, 1.37, **1.49**, 1.62, 1.74, 1.86, 1.98.
$^6D_5$–$^6F_6$ (**0.05**, 0.15, 0.25, 0.35, 0.45), **1.66**, 1.10, 1.20, 1.30, 1.40, 1.51, 1.61, 1.71, 1.81, 1.91.

$^6D_1$–$^6G'_2$ (1.67), 1.67.
$^6D_2$–$^6G'_2$ (0.93, **2.80**), −0.93, +**0.93**, 2.80.
$^6D_2$–$^6G'_3$ (**0.50**, 1.51), −**0.66**, +0.35, 1.36, 2.37.
$^6D_3$–$^6G'_2$ (**0.83**, 2.48), 0.83, 2.48, **4.14.**
$^6D_3$–$^6G'_3$ (0.40, 1.20, **2.00**), −0.34, +0.46, **1.26**, 2.06, 2.86.
$^6D_3$–$^6G'_4$ (**0.26**, 0.77, 1.28), −**0.14**, +0.37, 0.88, 1.40, 1.91, 2.43.
$^6D_4$–$^6G'_3$ (**0.36**, 1.10, 1.83), −0.24, +0.49, 1.22, 1.95, 2.68, **3.41.**
$^6D_4$–$^6G'_4$ (0.22, 0.67, 1.11, **1.56**), 0.03, 0.48, 0.92, **1.36**, 1,81, 2.25, 2.70.
$^6D_4$–$^6G'_5$ (**0.16**, **0.47**, 0.79, 1.10), **0.17**, 0.49, 0.80, 1.12, 1.43, 1.74, 2.06, 2.37.
$^6D_5$–$^6G'_4$ (**0.21**, **0.62**, 1.03, 1.44), 0.11, 0.52, 0.94, 1.35, 1.76, 2.18, 2.59, **3.00.**
$^6D_5$–$^6G'_5$ (0.14, 0.42, 0.71, 0.99, **1.27**), 0.28, 0.57, 0.85, 1.13, **1.41**, 1.70, 1.98, **2.26**, **2.54.**
$^6D_5$–$^6G'_6$ (**0.11**, 0.32, 0.53, 0.74, 0.96), **0.38**, 0.60, 0.81, 1.02, 1.24, 1.45, 1.66, 1.88, 2.09, 2.30.

$^6D_2$–$^6H_3$ (**0.79**, 2,37), −**2.08**, −0.50, +1.08, 2.66.
$^6D_3$–$^6H_3$ (0.69, 2.06, **3.42**), −1.77, −0.40, +**0.97**, 2.34, 3.71.
$^6D_3$–$^6H_4$ (**0.42**, 1.25, 2.08), −**1.25**, −0.42, +0.41, 1.24, 2.07, 2.90.
$^6D_4$–$^6H_3$ (**0.65**, 1.95, 3.25), −1.67, −0.36, +0.94, 2.24, 3.54, **4.84.**
$^6D_4$–$^6H_4$ (0.38, 1.14, 1.90, **2.67**), −1.08, −0.32, +0.44, **1.21**, 1,97, 2.73, 3.49.
$^6D_4$–$^6H_5$ (**0.26**, 0.78, 1.29, 1.81), −**0.74**, −0.22, +0.30, 0.81, 1.33, 1.85, 2.36, 2.88.
$^6D_5$–$^6H_4$ (**0.37**, 1.10, 1.83, 2.56), −1.00, −0.27, +0.46, 1.19, 1.92, 2.65, 3.38, **4.11.**
$^6D_5$–$^6H_5$ (0.24, 0.73, 1.21, 1.70, **2.18**), −0.63, −0.14, +0.34, 0.83, **1.31**, 1.80, 2.28, 2.77, 3.25.
$^6D_5$–$^6H_6$ (**0.18**, 0.53, 0.88, 1.23, 1.58), −**0.38**, −0.03, +0.32, 0.67, 1.03, 1.38, 1.73, 2.08, 2.44, 2.79.

$^6F_1$–$^6F'_1$ (0.00), 0.67.
$^6F_1$–$^6F'_2$, $^6F_2$–$^6F'_1$ (0.87), 0.20, **1.33.**
$^6F_2$–$^6F'_2$ (0.00), 1.07.
$^6F_2$–$^6F'_3$, $^6F_3$–$^6F'_2$ (**0.12**, 0.37), 0.94, 1.19, 1.44, **1.68.**
$^6F_3$–$^6F'_3$ (0.00), 1.31.
$^6F_3$–$^6F'_4$, $^6F_4$–$^6F'_3$ (**0.04**, 0.12, 0.21), 1.19, 1.27, 1.35, 1.44, 1.52, **1.60.**
$^6F_4$–$^6F'_4$ (0.00), 1.40.
$^6F_4$–$^6F'_5$, $^6F_5$–$^6F'_4$ (**0.02**, 0.06, 0.09, 0.13), 1.30, 1.34, 1.38, 1.42, 1.45, 1.49, 1.53, **1.57.**
$^6F_5$–$^6F'_5$ (0.00), 1.43.
$^6F_5$–$^6F'_6$, $^6F_6$–$^6F'_5$ (**0.01**, 0.03, 0.05, 0.07, 0.09), 1.36, 1.38, 1.40, 1.42, 1.44, 1.46, 1.48, 1.50, 1.52, **1.54.**
$^6F_6$–$^6F'_6$ (0.00), **1.45.**

$^6F_1$–$^6G_2$ (**0.33**), **0.33.**
$^6F_2$–$^6G_2$ (0.53, **1.60**), −0.53, +**0.53**, 1.60.
$^6F_2$–$^6G_3$ (**0.10**, 0.32), **0.54**, 0.75, 0.96, 1.17.
$^6F_3$–$^6G_2$ (**0.23**, 0.66), 0.63, 1.08, 1.54, **2.00.**
$^6F_3$–$^6G_3$ (0.23, 0.68, **1.12**), 0.17, 0.63, **1.08**, 1,54, 2.00.
$^6F_3$–$^6G_4$ (**0.09**, 0.26, 0.43), **0.71**, 0.88, 1.06, 1.23, 1.40, 1.57.
$^6F_4$–$^6G_3$ (**0.27**, 0.81, 1.35), 0.05, 0.59, 1.13, 1.67, 2.21, **2.75.**
$^6F_4$–$^6G_4$ (0.13, 0.38, 0.63, **0.89**), 0.51, 0.76, 1.01, **1.27**, 1.52, 1.78, 2.03.
$^6F_4$–$^6G_5$ (**0.06**, 0.19, 0.31, 0.43), **0.84**, 0.96, 1.08, 1.21, 1.33, 1.46, 1.58, 1.71.
$^6F_5$–$^6G_4$ (**0.15**, 0.44, 0.73, 1.02), 0.41, 0.71, 1.00, 1.29, 1.58, 1.87, 2.16, **2.45.**
$^6F_5$–$^6G_5$ (0.08, 0.24, 0.40, 0.56, **0.73**), 0.71, 0.87, 1.03, 1.19, **1.35**, 1.52, 1.68, 1.84, 2.00.
$^6F_5$–$^6G_6$ (**0.05**, 0.14, 0.23, 0.32, 0.41), **0.93**, 1.02, 1.11, 1.20, 1.30, 1.39, 1.48, 1.57, 1.66, 1.75.
$^6F_6$–$^6G_5$ (**0.09**, 0.27, 0.45, 0.63, 0.82), 0.64, 0.82, 1.00, 1.18, 1.36, 1.55, 1.73, 1.91, 2.09, **2.27.**
$^6F_6$–$^6G_6$ (0.06, 0.17, 0.28, 0.39, 0.50, **0.62**), 0.84, 0.95, 1.06, 1.18, 1.29, **1.40**, 1.51, 1.62, 1.73, 1.85, 1.96.
$^6F_6$–$^6G_7$ (**0.04**, 0.10, 0.17, 0.24, 0.31, 0.38), **1.00**, 1.07, 1.14, 1.21, 1.28, 1.35, 1.42, 1.49, 1.56, 1.63, 1.70, 1.77.

$^6F_2$–$^6H'_3$ (**0.39**, 1.17), −**0.89**, −0.10, +0.68, 1.46.
$^6F_3$–$^6H'_3$ (0.51, 1.54, **2.57**), −1.26, −0.23, +**0.80**, 1.83, 2.86.
$^6F_3$–$^6H'_4$ (**0.24**, 0.73, 1.22), −**0.40**, +0.09, 0.58, 1.07, 1.56, 2.05.
$^6F_4$–$^6H'_3$ (**0.56**, 1.67, 2.78), −1.38, −0.27, +0.84, 1.95, 3.07, **4.17.**
$^6F_4$–$^6H'_4$ (0.29, 0.86, 1.43, **2.00**), −0.60, −0. 03, +0.54, **1.11**, 1.68, 2.25, 2.83.
$^6F_4$–$^6H'_5$ (**0.16**, 0.49, 0.82, 1.14), −**0.07**, +0.26, 0.58, 0.91, 1.23, 1.56, 1.88, 2.21.
$^6F_5$–$^6H'_4$ (**0.30**, 0.91, 1.52, 2.13), −0.70, −0.09, +0.52, 1.13, 1.74, 2.34, 2.95, **3.56.**

TABLE 3.—*Theoretical Zeeman effects (sextet system)*—Continued

$^6F_5$–$^6H'_5$ (0.18, 0.55, 0.91, 1.27, **1.64**), −0.20, +0.16, 0.52, 0.89, **1.25**, 1.62, 1.98, 2.34, 2.71.
$^6F_5$–$^6H'_6$ (**0.12**, 0.35, 0.58, 0.81, 1.04), **0.16**, 0.39, 0.62, 0.86, 1.09, 1.32, 1.55, 1.78, 2.01, 2.24.
$^6F_6$–$^6H'_5$ (**0.19**, 0.58, 0.96, 1.34, 1.73), −0.27, +0.11, 0.50, 0.88, 1.26, 1.65, 2.03, 2.41, 2.80, **3.18.**
$^6F_6$–$^6H'_6$ (0.13, 0.38, 0.63, 0.88, 1.13, **1.38**), 0.07, 0.32, 0.57, 0.82, 1.08, **1.33**, 1.58, 1.83, 2.08, 2.33, 2.59.
$^6F_6$–$^6H'_7$ (**0.09**, 0.27, 0.43, 0.60, 0.78, 0.95) **0.33**, 0.51, 0.68, 0.85, 1.02, 1.20, **1.37**, 1.54, **1.71**, 1.88, 2.06, 2.23.

$^6G_2$–$^6G'_2$ (0.00), 0.00.
$^6G_2$–$^6G'_3$, $^6G_3$–$^6G'_2$ (**0.43**, 1.29), −0.43, +0.43, 1.29, **2.14.**
$^6G_3$–$^6G'_3$ (0.00), 0.86.
$^6G_3$–$^6G'_4$, $^6G_4$–$^6G'_3$ (**0.14**, 0.43, 0.71), 0.43, 0.71, 1.00, 1.28, 1.57, **1.86.**
$^6G_4$–$^6G'_4$ (0.00), 1.14.
$^6G_4$–$^6G'_5$, $^6G_5$–$^6G'_4$ (**0.06**, 0.19, 0.32, 0.45), 0.82, 0.95, 1.08, 1.21, 1.34, 1.47, 1.60, **1.73.**
$^6G_5$–$^6G'_5$ (0.00), 1.27.
$^6G_5$–$^6G'_6$, $^6G_6$–$^6G'_5$ (**0.03**, 0.10, 0.17, 0.24, 0.31), 1.03, 1.10, 1.17, 1.24, 1.31, 1.38, 1.45, 1.52, 1.59, **1.66.**
$^6G_6$–$^6G'_6$ (0.00), 1.34.
$^6G_6$–$^6G'_7$, $^6G_7$–$^6G'_6$ (**0.02**, 0.06, 0.10, 0.15, 0.19, 0.23), 1.15, 1.19, 1.24, 1.28, 1.32, 1.36, 1.40, 1.45, 1.49, 1.53, 1.57, **1.61.**
$^6G_7$–$^6G'_7$ (0.00), 1.38.

$^6G_2$–$^6H_3$ (**0.14**, 0.43), −0.14, +0.14, 0.43, **0.71.**
$^6G_3$–$^6H_3$ (0.29, 0.86, **1.43**), −0.57, 0.00, **0.57**, 1.14, 1.71.
$^6G_3$–$^6H_4$ (**0.02**, 0.05, 0.08), **0.75**, 0.78, 0.81, 0.84, 0.87, 0.90.
$^6G_4$–$^6H_3$ (**0.43**, 1.29, 2.14), −1.00, −0.14, +0.71, 1.57, 2.43, **3.29.**
$^6G_4$–$^6H_4$ (0.16, 0.48, 0.79, **1.11**), 0.03, 0.35, 0.67, **0.98**, 1.30, 1.62, 1.93.
$^6G_4$–$^6H_5$ (**0.04**, 0.11, 0.18, 0.25), **0.82**, 0.89, 0.96, 1.03, 1.11, 1.18, 1.25, 1.32.
$^6G_5$–$^6G_4$ (**0.22**, 0.67, 1.12, 1.56), −0.29, +0.15, 0.60, 1.05, 1.50, 1.94, 2.38, **2.83.**
$^6G_5$–$^6H_5$ (0.10, 0.30, 0.50, 0.71, **0.91**), 0.36, 0.57, 0.77, 0.97, **1.17**, 1.37, 1.58, 1.78, 1.98.
$^6G_5$–$^6H_6$ (**0.03**, 0.10, 0.17, 0.24, 0.31), **0.89**, 0.96, 1.03, 1.10, 1.17, 1.24, 1.31, 1.38, 1.45, 1.52.
$^6G_6$–$^6H_5$ (**0.14**, 0.41, 0.68, 0.95, 1.22), 0.12, 0.39, 0.66, 0.94, 1.21, 1.48, 1.75, 2.02, 2.29, **2.57.**
$^6G_6$–$^6H_6$ (0.07, 0.21, 0.35, 0.49, 0.63, **0.77**), 0.57, 0.71, 0.85, 0.99, 1.13, **1.27**, 1.41, 1.55, 1.69, 1.83, 1.97.
$^6H_6$–$^6H_7$ (**0.03**, 0.09, 0.15, 0.21, 0.27, 0.33), **0.95**, 1.01, 1.07, 1.13, 1.19, 1.25, 1.31, 1.37, 1.43, 1.49, 1.55, 1.61.
$^6G_7$–$^6H_6$ (**0.09**, 0.27, 0.45, 0.64, 0.82, 1.00), 0.38, 0.57, 0.75, 0.93, 1.11, 1.29, 1.47, 1.66, 1.84, 2.02, 2.20, **2.39.**
$^6G_7$–$^6H_7$ (0.05, 0.15, 0.26, 0.36, 0.56, **0.67**), 0.72, 0.82, 0.92, 1.02, 1.13, 1.23, **1.33**, 1.43, 1.54, 1.64, 1.74, 1.84, 1.95.
$^6G_7$–$^6H_8$ (**0.03**, 0.08, 0.13, 0.18, 0.23, 0.33), **1.00**, 1.05, 1.10, 1.15, 1.20, 1.26, 1.31, 1.36, 1.41, 1.46, 1.51, 1.56, 1.61, 1.66.

$^6H_3$–$^6H'_3$ (0.00), 0.29.
$^6H_3$–$^6H'_4$, $^6H_4$–$^6H'_3$ (**0.27**, 0.81, 1.35), −0.52, +0.02, 0.56, 1.09, 1.63, **2.17.**
$^6H_4$–$^6H'_4$ (0.00), 0.82.
$^6H_4$–$^6H'_5$, $^6H_5$–$^6H'_4$ (**0.12**, 0.37, 0.61, 0.86), 0.21, 0.46, 0.70, 0.95, 1.19, 1.44, 1.68, **1.92.**
$^6H_5$–$^6H'_5$ (0.00), 1.07.
$^6H_5$–$^6H'_6$, $^6H_6$–$^6H'_5$ (**0.07**, 0.20, 0.33, 0.46, 0.59), 0.61, 0.74, 0.87, 1.00, 1.14, 1.27, 1.40, 1.53, 1.67, **1.80.**
$^6H_6$–$^6H'_6$ (0.00), 1.20.
$^6H_6$–$^6H'_7$, $^6H_7$–$^6H'_6$ (**0.04**, 0.12, 0.20, 0.28, 0.36, 0.43), 0.84, 0.92, 1.00, 1.08, 1.16, 1.24, 1.32, 1.40, 1.48, 1.56, 1.64, **1.72.**
$^6H_7$–$^6H'_7$ (0.00), 1.28.
$^6H_7$–$^6H'_8$, $^6H_8$–$^6H'_7$ (**0.03**, 0.08, 0.13, 0.18, 0.23, 0.28, 0.33), 1.00, 1.05, 1.10, 1.15, 1.20, 1.26, 1.31, 1.36, 1.41, 1.46, 1.51, **1.56**, 1.61, **1.67.**
$^6H_8$–$^6H'_8$ (0.00), 1.33.

$^6H_3$–$^6I_4$ (**0.08**, 0.24, 0.40), 0.05, 0.21, 0.36, 0.52, 0.68, **0.84.**
$^6H_4$–$^6I_4$ (0.19, 0.57, 0.95, **1.33**), −0.51, −0.13, +0.25, **0.63**, 1.01, 1.40, 1.78.
$^6H_4$–$^6I_5$ (**0.00**, 0.00, 0.01, 0.01), 0.83, 0.83, 0.84, 0.84, 0.84, 0.84, 0.85, **0.85.**
$^6H_5$–$^6I_4$ (**0.31**, 0.94, 1.56, 2.19), −1.12, −0.49, +0.13, 0.76, 1.38, 2.01, 2.63, **3.26.**
$^6H_5$–$^6I_5$ (0.12, 0.36, 0.61, 0.85, **1.09**), −0.02, +0.22, 0.46, 0.71, **0.95**, 1.19, 1.43, 1.67, 1.92.
$^6H_5$–$^6I_6$ (**0.02**, 0.05, 0.09, 0.12, 0.16), **0.87**, 0.91, 0.95, 0.98, 1.02, 1.05, 1.09, 1.12, 1.16, 1.20.
$^6H_6$–$^6I_5$ (**0.19**, 0.56, 0.94, 1.31, 1.68), −0.48, −0.11, +0.27, 0.64, 1.02, 1.39, 1.76, 2.14, 2.51, **2.89.**
$^6H_6$–$^6I_6$ (0.08, 0.25, 0.42, 0.59, 0.76, **0.92**), 0.28, 0.45, 0.61, 0.78, 0.95, **1.12**, 1.29, 1.45, 1.62, 1.79, 1.96.
$^6H_6$–$^6I_7$ (**0.02**, 0.07, 0.11, 0.15, 0.20, 0.24), **0.92**, 0.96, 1.00, 1.05, 1.09, 1.14, 1.18, 1.22, 1.27, 1.31, 1.35, 1.40.
$^6H_7$–$^6I_6$ (**0.12**, 0.37, 0.62, 0.86, 1.11, 1.36), −0.07, +0.17, 0.42, 0.66, 0.91, 1.16, 1.41, 1.65, 1.90, 2.15, 2.39, **2.64.**
$^6H_7$–$^6I_7$ (0.06, 0.18, 0.31, 0.43, 0.55, 0.68, **0.80**), 0.48, 0.60, 0.73, 0.85, 0.97, 1.10, **1.22**, 1.34, 1.46, 1.59, 1.71, 1.83, 1.96.

TABLE 3.—*Theoretical Zeeman effects (sextet system)*—Continued

$^6H_7$–$^6I_8$	(**0.02,** 0.06, 0.11, 0.15, 0.19, 0.24, 0.28), **0.96,** 1.00, 1.05, 1.09, 1.13, 1.17, 1.22, 1.26, 1.30, 1.35, 1.39, 1.43, 1.47, 1.52.
$^6H_8$–$^6I_7$	(**0.09,** 0.26, 0.44, 0.61, 0.78, 0.96, 1.13), 0.20, 0.37, 0.55, 0.72, 0.90, 1.07, 1.25, 1.42, 1.59, 1.77, 1.94, 2.12, 2.29, **2.47.**
$^6H_8$–$^6I_8$	(0.05, 0.14, 0.23, 0.32, 0.42, 0.52, 0.61, **0.71**), 0.63, 0.72, 0.81, 0.91, 1.00, 1.10, 1.19, **1.29,** 1.38, 1.47, 1.57, 1.66, 1.76, 1.85, 1.94.
$^6H_8$–$^6I_9$	(**0.02,** 0.06, 0.10, 0.14, 0.18, 0.21, 0.25, 0.29), **1.00,** 1.04, 1.08, 1.12, 1.16, 1.20, 1.23, 1.27, 1.31, 1.35, 1.39, 1.43, 1.47, 1.51, 1.55, 1.59.
$^6I_4$–$^6I'_4$	(0.00), 0.44.
$^6I_4$–$^6I'_5$ $^6I_5$–$^6I'_4$	(**0.19,** 0.58, 0.96, 1.34), −0.52, −0.13, +0.25, 0.64, 1.02, 1.40, 1.79, **2.17.**
$^6I_5$–$^6I'_5$	(0.00), 0.83.
$^6I_5$–$^6I'_6$ $^6I_6$–$^6I'_5$	(**0.10,** 0.31, 0.52, 0.72, 0.93), 0.10, 0.31, 0.52, 0.72, 0.93, 1.14, 1.35, 1.55, 1.76, **1.97.**
$^6I_6$–$^6I'_6$	(0.00), 1.04.
$^6I_6$–$^6I'_7$ $^6I'_7$–$^6I_6$	(**0.06,** 0.19, 0.31, 0.43, 0.56, 0.68), 0.48, 0.60, 0.72, 0.85, 0.97, 1.09, 1.22, 1.34, 1.47, 1.59, 1.72, **1.84.**
$^6I_7$–$^6I'_7$	(0.00), 1.16.
$^6I_7$–$^6I'_8$ $^6I_8$–$^6I'_7$	(**0.04,** 0.12, 0.20, 0.27, 0.36, 0.44, 0.52), 0.72, 0.80, 0.88, 0.96, 1.04, 1.12, 1.20, 1.28, 1.36, 1.44, 1.52, 1.60, 1.68, **1.76.**
$^6I_8$–$^6I'_8$	(0.00), 1.24.
$^6I_8$–$^6I'_9$ $^6I_9$–$^6I'_8$	(**0.03,** 0.08, 0.14, 0.19, 0.25, 0.30, 0.36, 0.41), 0.88, 0.94, 0.99, 1.05, 1.10, 1.16, 1.21, 1.27, 1.32, 1.38, 1.43, 1.49, 1.54, 1.60, 1.65, **1.71.**
$^6I_9$–$^6I'_9$	(0.00), 1.28.

TABLE 4.—*Theoretical Zeeman effects (octet system)*

[Landé g values]

l \ j	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
S				$\frac{126}{63}$										2.000						
P			$\frac{80}{36}$	$\frac{132}{63}$	$\frac{176}{99}$								2.286	1.937	1.778					
D		$\frac{42}{15}$	$\frac{72}{35}$	$\frac{114}{63}$	$\frac{168}{99}$	$\frac{234}{143}$						2.800	2.057	1.809	1.697	1.636				
F	$\frac{12}{3}$	$\frac{30}{15}$	$\frac{60}{35}$	$\frac{102}{63}$	$\frac{156}{99}$	$\frac{222}{143}$	$\frac{300}{195}$				4.000	2.000	1.714	1.619	1.576	1.552	1.538			
G	$-\frac{4}{3}$	$\frac{14}{15}$	$\frac{44}{35}$	$\frac{88}{63}$	$\frac{140}{99}$	$\frac{208}{143}$	$\frac{284}{195}$	$\frac{374}{255}$			−1.333	0.933	1.257	1.365	1.414	1.441	1.456	1.467		
H		$-\frac{6}{15}$	$\frac{24}{35}$	$\frac{68}{63}$	$\frac{120}{99}$	$\frac{186}{143}$	$\frac{264}{195}$	$\frac{354}{255}$	$\frac{456}{323}$			−0.400	0.686	1.048	1.212	1.301	1.354	1.388	1.412	
I			$\frac{0}{35}$	$\frac{42}{63}$	$\frac{96}{99}$	$\frac{162}{143}$	$\frac{240}{195}$	$\frac{330}{255}$	$\frac{432}{323}$	$\frac{546}{399}$			0.000	0.667	0.970	1.133	1.231	1.294	1.337	1.368

TABLE 4.—*Theoretical Zeeman effects (octet system)*—Continued

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$^8S_4$–$^8S'_4$ (0.00), 2.00.

$^8S_4$–$^8P_3$ (**0.14,** 0.43, 0.71), **1.29,** 1.57, 1.86, 2.14, 2.43, 2.72.
$^8S_4$–$^8P_4$ (0.03, 0.10, 0.16, **0.22**), 1.78, 1.84, 1.90, **1.97,** 2.03, 2.10, 2.16.
$^8S_4$–$^8P_5$ (**0.11,** 0.33, 0.56, 0.78), **1.00,** 1.22, 1.44, 1.67, 1.89, 2.11, 2.33, 2.55.

$^8S_4$–$^8D'_3$ (**0.03,** 0.09, 0.14), **1.86,** 1.92, 1.97, 2.03, 2.09, 2.15.
$^8S_4$–$^8D'_4$ (0.10, 0.29, 0.48, **0.67**), 1.33, 1.52, 1.72, **1.91,** 2.10, 2.29, 2.48.
$^8S_4$–$^8D'_5$ (**0.15,** 0.45, 0.76, 1.06), **0.64,** 0.94, 1.24, 1.55, 1.85, 2.15, 2.46, 2.76.

$^8S_4$–$^8F_3$ (**0.14,** 0.43, 0.72), 1.29, 1.57, 1.86, 2.14, 2.43, **2.72.**
$^8S_4$–$^8F_4$ (0.19, 0.57, 0.95, **1.33**), 0.67, 1.05, 1.43, **1.81,** 2.19, 2.57, 2.95.
$^8S_4$–$^8F_5$ (**0.21,** 0.64, 1.06, 1.48), **0.09,** 0.52, 0.94, 1.36, 1.79, 2.21, 2.64, 3.06.

$^8P_3$–$^8P'_3$ (0.00), 2.28.
$^8P_3$–$^8P'_4$, $^8P_4$–$^8P'_3$ (**0.17,** 0.52, 0.87), **1.06,** 1.41, 1.76, 2.11, 2.46, 2.81.
$^8P_4$–$^8P'_4$ (0.00), 1.94.
$^8P_4$–$^8P'_5$, $^8P_5$–$^8P'_4$ (**0.08,** 0.24, 0.40, 0.56), **1.22,** 1.38, 1.54, 1.70, 1.86, 2.02, 2.17, 2.33.
$^8P_5$–$^8P'_5$ (0.00), 1.78.

$^8P_3$–$^8D_2$ (**0.26,** 0.77), **1.51,** 2.03, 2.54, 3.06.
$^8P_3$–$^8D_3$ (0.11, 0.34, **0.57**), 1.71, 1.94, **2.17,** 2.40, 2.63.
$^8P_3$–$^8D_4$ (**0.24,** 0.71, 1.19), **0.62,** 1.09, 1.57, 2.05, 2.53, 3.00.
$^8P_4$–$^8D_3$ (**0.06,** 0.18, 0.30), **1.63,** 1.76, 1.88, 2.00, 2.12, 2.24.
$^8P_4$–$^8D_4$ (0.06, 0.19, 0.32, **0.44**), 1.49, 1.62, 1.75, **1.87,** 2.00, 2.12, 2.25.
$^8P_4$–$^8D_5$ (**0.12,** 0.36, 0.60, 0.84), **0.86,** 1.10, 1.34, 1.58, 1.81, 2.05, 2.29, 2.53.
$^8P_5$–$^8D_4$ (**0.02,** 0.05, 0.08, 0.11), **1.67,** 1.70, 1.73, 1.76, 1.79, 1.82, 1.86, 1.89.
$^8P_5$–$^8D_5$ (0.04, 0.12, 0.20, 0.28, **0.36**), 1.41, 1.49, 1.58, 1.66, **1.74,** 1.82, 1.90, 1.98, 2.06.
$^8P_5$–$^8D_6$ (**0.07,** 0.21, 0.35, 0.49, 0.64), **1.00,** 1.14, 1.28, 1.42, 1.57, 1.71, 1.85, 1.99, 2.13, 2.27.

$^8P_3$–$^8F'_2$ (**0.14,** 0.43), 1.86, 2.14, 2.43, **2.72.**
$^8P_3$–$^8F'_3$ (0.29, 0.86, **1.43**), 0.86, 1.43, **2.00,** 2.57, 3.14.
$^8P_3$–$^8F'_4$ (**0.33,** 1.00, 1.67), **−0.05,** +0.62, 1.28, 1.95, 2.62, 3.29.
$^8P_4$–$^8F'_3$ (**0.11,** 0.33, 0.56), 1.38, 1.60, 1.83, 2.05, 2.27, **2.49.**
$^8P_4$–$^8F'_4$ (0.16, 0.48, 0.79, **1.11**), 0.82, 1.14, 1.46, **1.78,** 2.09, 2.41, 2.73.
$^8P_4$–$^8F'_5$ (**0.18,** 0.54, 0.90, 1.26), **0.31,** 0.67, 1.03, 1.39, 1.75, 2.11, 2.47, 2.83.
$^8P_5$–$^8F'_4$ (**0.08,** 0.24, 0.40, 0.56), 1.22, 1.38, 1.54, 1.70, 1.86, 2.02, 2.18, **2.33.**
$^8P_5$–$^8F'_5$ (0.10, 0.30, 0.50, 0.71, **0.91**), 0.87, 1.07, 1.27, 1.47, **1.68,** 1.88, 2.08, 2.28, 2.48.
$^8P_5$–$^8F'_6$ (**0.11,** 0.34, 0.56, 0.79, 1.02), **0.54,** 0.76, 0.99, 1.22, 1.44, 1.67, 1.89, 2.12, 2.34, 2.57.

$^8P_3$–$^8G_2$ (**0.68,** 2.03), 0.26, 1.61, 2.96, **4.31.**
$^8P_3$–$^8G_3$ (0.51, 1.54, **2.57**), −0.29, +0.74, **1.77,** 2.80, 3.83.
$^8P_3$–$^8G_4$ (**0.46,** 1.38, 2.30), **−0.94,** −0.02, +0.90, 1.82, 2.74, 3.66.
$^8P_4$–$^8G_3$ (**0.34,** 1.02, 1.70), 0.24, 0.92, 1.60, 2.27, 2.95, **3.63.**
$^8P_4$–$^8G_4$ (0.29, 0.86, 1.43, 2.00), −0.06, +0.51, 1.08, **1.65,** 2.22, 2.79, 3.36.
$^8P_4$–$^8G_5$ (**0.26,** 0.78, 1.30, 1.83), **−0.41,** +0.11, 0.63, 1.15, 1.68, 2.20, 2.72, 3.24.
$^8P_5$–$^8G_4$ (**0.21,** 0.62, 1.03, 1.44), 0.33, 0.75, 1.16, 1.57, 1.98, 2.39, 2.80, **3.22.**
$^8P_5$–$^8G_5$ (0.18, 0.55, 0.91, 1.27, **1.64**), 0.14, 0.50, 0.87, 1.23, **1.60,** 1.96, 2.32, 2.69, 3.05.
$^8P_5$–$^8G_6$ (**0.17,** 0.51, 0.84, 1.18, 1.52), **−0.08,** +0.26, 0.60, 0.94, 1.27, 1.61, 1.95, 2.28, 2.62, **2.96.**

$^8D_2$–$^8D'_2$ (0.00), 2.80.
$^8D_2$–$^8D'_3$, $^8D_3$–$^8D'_2$ (**0.37,** 1.11), **0.94,** 1.68, 2.43, 3.17.
$^8D_3$–$^8D'_3$ (0.00), 2.06.
$^8D_3$–$^8D'_4$, $^8D_4$–$^8D'_3$ (**0.12,** 0.37, 0.62), **1.19,** 1.44, 1.68, 1.93, 2.18, 2.43.
$^8D_4$–$^8D'_4$ (0.00), 1,81.
$^8D_4$–$^8D'_5$, $^8D_5$–$^8D'_4$ (**0.06,** 0.17, 0.28, 0.39), **1.30,** 1.41, 1.53. 1.64, 1.75, 1.86, 1.98, 2.09.
$^8D_5$–$^8D'_5$ (0.00), 1.70.
$^8D_5$–$^8D'_6$, $^8D_6$–$^8D'_5$ (**0.03,** 0.09, 0.15, 0.21, 0.27), **1.36,** 1.42, 1.48, 1.54, 1.61, 1.67, 1.73, 1.79, 1.85, **1.91.**
$^8D_6$–$^8D'_6$ (0.00), 1.63.

$^8D_2$–$^8F_1$ (0.60), **2.20,** 3.40.
$^8D_2$–$^8F_2$ (0.40, **1.20**), 1.60, **2.40,** 3.20.
$^8D_2$–$^8F_3$ (**0.54,** 1.63), **0.09,** 1.17, 2.26, 3.34.
$^8D_3$–$^8F_2$ (**0.03,** 0.09), 1.97, 2.03, 2.08, **2.14.**
$^8D_3$–$^8F_3$ (0.17, 0.51, **0.86**), 1.20, 1.54, **1.88,** 2.23, 2.57.
$^8D_3$–$^8F_4$ (**0.22,** 0.66, 1.10), **0.52,** 0.96, 1.40, 1.84, 2.27, 2.72.

TABLE 4.—*Theoretical Zeeman effects (octet system)*—Continued

$^8D_4$–$^8F_3$ (**0.05**, 0.14, 0.24), 1.57, 1.66, 1.76, 1.85, 1.95, **2.05.**
$^8D_4$–$^8F_4$ (0.09, 0.28, 0.48, **0.67**), 1.14, 1.33, 1.52, **1.71**, 1.90, 2.09, 2.28.
$^8D_4$–$^8F_5$ (**0.12**, 0.35, 0.58, 0.82), **0.76**, 0.99, 1.22, 1.46, 1.69, 1.93, 2.16, 2.39.
$^8D_5$–$^8F_4$ (**0.04**, 0.12, 0.19, 0.27), 1.42, 1.50, 1.58, 1.66, 1.73, 1.81, 1.89, **1.97.**
$^8D_5$–$^8F_5$ (0,06. 0.18, 0.30, 0.42, **0.54**), 1.15, 1.27, 1.39, 1.51, **1.64**, 1.76, 1.88, 2.00, 2.12.
$^8D_5$–$^8F_6$ (**0.07**, 0.22, 0.36, 0.51, 0.65), **0.90**, 1.05, 1.19, 1.33, 1.48, 1.62, 1.77, 1.91, 2.06, 2.20.
$^8D_6$–$^8F_5$ (**0.03**, 0.09, 0.15, 0.21, 0.27), 1.36, 1.42, 1.49, 1.55, 1.61, 1.67, 1.73, 1.79, 1.85, **1.91.**
$^8D_6$–$^8F_6$ (0.04, 0.13, 0.21, 0.29, 0.38, **0.46**), 1.18, 1.26, 1.34, 1.43, 1.51, **1.60**, 1.68, 1.76, 1.85, 1.93, 2.01.
$^8D_6$–$^8F_7$ (**0.05**, 0.15, 0.24, 0.34, 0.44, 0.54), **1.00**, 1.10, 1.20, 1.29, 1.39, 1.49, 1.59, 1.68, 1.78, 1.88, 1.98, 2.08.

$^8D_2$–$^8G'_1$ (2.07), 0.73, **4.87.**
$^8D_2$–$^8G'_2$ (0.93, **2.80**), 0.00, **1.87**, 3.74.
$^8D_2$–$^8G'_3$ (**0.77**, 2.31), **−1.06**, +0.49, 2.03, 3.57.
$^8D_3$–$^8G'_2$ (**0.56**, 1.69), 0.37, 1.50, 2.62, **3.74.**
$^8D_3$–$^8G'_3$ (0.40, 1.20, **2.00**), 0.06, 0.86, **1.66**, 2.46, 3.26.
$^8D_3$–$^8G'_4$ (**0.35**, 1.04, 1.73), **−0.36**, +0.33, 1.02, 1.71, 2.40, 3.10.
$^8D_4$–$^8G'_3$ (**0.38**, 0.83, 1.38), 0.43, 0.98, 1.53, 2.09, 2.64, **3.19.**
$^8D_4$–$^8G'_4$ (0.22, 0.67, 1.11, **1.56**), 0.25, 0.70, 1.14, **1.58**, 2.03, 2.48, 2.92.
$^8D_4$–$^8G'_5$ (**0.20**, 0.59, 0.99, 1.38), **0.03**, 0.43, 0.82, 1.22, 1.61, 2.01, 2.40, 2.80.
$^8D_5$–$^8G'_4$ (**0.17**, 0.50, 0.83, 1.16), 0.54, 0.87, 1.20, 1.53, 1.86, 2.19, 2.53, **2.86.**
$^8D_5$–$^8G'_5$ (0.14, 0.42, 0.71, 0.99, **1.27**), 0.42, 0.71, 0.99, 1.27, **1.56**, 1.84, 2.12, 2.40, 2.69.
$^8D_5$–$^8G'_6$ (**0.13**, 0.38, 0.64, 0.90, 1.15), **0.29**, 0.54, 0.80, 1.06, 1.31, 1.57, 1.82, 2.08, 2.33, 2.59.
$^8D_6$–$^8G'_5$ (**0.11**, 0.33, 0.56, 0.78, 1.00), 0.64, 0.86, 1.08, 1.30, 1.53, 1.75, 1.97, 2.19, 2.42, **2.64.**
$^8D_6$–$^8G'_6$ (0.10, 0.29, 0.49, 0.68, 0.88, **1.08**), 0.56, 0.76, 0.95, 1.15, 1.34, **1.54**, 1.73, 1.93, 2.13, 2.32, 2.52.
$^8D_6$–$^8G'_7$ (**0.09**, 0.27, 0.45, 0.63. 0.81· 0.99), **0.47**, 0.65, 0.83, 1.01, 1.19, 1.37, 1.55, 1.73, 1.91, 2.09, 2.27, 2.45.

$^8F_1$–$^8F'_1$ (0.00), 4.00.
$^8F_1$–$^8F'_2$, $^8F_2$–$^8F'_1$ (1.00), **1.00**, 3.00.
$^8F_2$–$^8F'_2$ (0.00), 2.00.
$^8F_2$–$^8F'_3$, $^8F_3$–$^8F'_2$ (**0.14**, 0.43), **1.29**, 1.57, 1.85, 2.14.
$^8F_3$–$^8F'_3$ (0.00), 1.71.
$^8F_3$–$^8F'_4$, $^8F_4$–$^8F'_3$ (**0.05**, 0.14, 0.24), **1.38**, 1.48, 1.57, 1.67, 1.76, 1.86.
$^8F_4$–$^8F'_4$ (0.00), 1.62.
$^8F_4$–$^8F'_5$, $^8F_5$–$^8F'_4$ (**0.02**, 0.06, 0.11, 0.15), **1.42**, 1.47, 1.51, 1.55, 1.60, 1.64, 1.68, 1.73.
$^8F_5$–$^8F'_5$ (0.00), 1.57.
$^8F_5$–$^8F'_6$, $^8F_6$–$^8F'_5$ (**0.01**, 0.03, 0.06, 0.08, 0.10), **1.45**, 1.47, 1.49, 1.52, 1.54, 1.56, 1.59, 1.61, 1.63, 1.66.
$^8F_6$–$^8F'_6$ (0.00), 1.55.
$^8F_6$–$^8F'_7$, $^8F_7$–$^8F'_6$ (**0.01**, 0.02, 0.04, 0.05, 0.06, 0.08), **1.46**, 1.48, 1.49, 1.50, 1.52, 1.53, 1.54, 1.56, 1.57, 1.59, 1.60, 1.62.
$^8F_7$–$^8F'_7$ (0.00), 1.54.

$^8F_1$–$^8G_1$ (2.67), 1.33.
$^8F_1$–$^8G_2$ (1.53), **−0.60**, +2.47.
$^8F_2$–$^8G_1$ (1.67), 0.33, **3.67.**
$^8F_2$–$^8G_2$ (0.53, **1.60**), 0.40, **1.47**, 2.53.
$^8F_2$–$^8G_3$ (**0.37**, 1.11), **0.14**, 0.89, 1.63, 2.37.
$^8F_3$–$^8G_2$ (**0.39**, 1.17), 0.54, 1.33, 2.10, **2.88.**
$^8F_3$–$^8G_3$ (0.23, 0.69, **1.14**), 0.57, 1.03, **1.49**, 1.94, 2.40.
$^8F_3$–$^8G_4$ (**0.17**, 0.52, 0.87), **0.49**, 0.84, 1.19, 1.54, 1.89, 2.24.
$^8F_4$–$^8G_3$ (**0.18**, 0.54, 0.90), 0.71, 1.08, 1.44, 1.80, 2.16, **2.52.**
$^8F_4$–$^8G_4$ (0.13, 0.38, 0.63, **0.89**), 0.73, 0.98, 1.24, **1.49**, 1.75, 2.00, 2.25.
$^8F_4$–$^8G_5$ (**0.10**, 0.31, 0.51, 0.72), **0.70**, 0.90, 1.11, 1.31, 1.52, 1.72, 1.92, 2.13.
$^8F_5$–$^8G_4$ (**0.11**, 0.32, 0.53, 0.74), 0.84, 1.05, 1.26, 1.47, 1.68, 1.89, 2.11, **2.32.**
$^8F_5$–$^8G_5$ (0.08, 0.24, 0.40, 0.57, **0.73**), 0.85, 1.01, 1.17, 1.33, **1.49**, 1.66, 1.82, 1.98, 2.14.
$^8F_5$–$^8G_6$ (**0.07**, 0.20, 0.34, 0.47, 0.61), **0.83**, 0.97, 1.10, 1.24, 1.37, 1.51, 1.64, 1.77, 1.91, 2.05.
$^8F_6$–$^8G_5$ (**0.07**, 0.21, 0.35, 0.48, 0.62), 0.93, 1.07, 1.21, 1.35, 1.48, 1.62, 1.76, 1.90, 2.04, **2.18.**
$^8F_6$–$^8G_6$ (0.06, 0.17, 0.28, 0.39, 0.50, **0.62**), 0.94, 1.05, 1.16, 1.27, 1.38, **1.50**, 1.61, 1.72, 1.83, 1.94, 2.05.
$^8F_6$–$^8G_7$ (**0.05**, 0.14, 0.24. 0.34, 0.43, 0.53), **0.93**, 1.02, 1.12, 1.22, 1.31, 1.41, 1.50, 1.60, 1.70, 1.79, 1.89, 1.99.
$^8F_7$–$^8G_6$ (**0.05**, 0.15, 0.24, 0.34, 0.44, 0.54), 1.00, 1.10, 1.20, 1.29, 1.39, 1.49, 1.58, 1.68, 1.78, 1.88, 1.98, **2.08.**
$^8F_7$–$^8G_7$ (0.04, 0.12, 0.20, 0.29, 0.37, 0.45, **0.53**), 1.00, 1.09, 1.17, 1.25, 1.33, 1.42, **1.50**, 1.58, 1.66, 1.75, 1.83, 1.91, 1.99.
$^8F_7$–$^8G_8$ (**0.04**, 0.11, 0.18, 0.25, 0.32, 0.39, 0.47), **1.00**, 1.07, 1.14, 1.22, 1.29, 1.36, 1.43, 1.50, 1.57, 1.65, 1.72, 1.79, 1.86, 1.93.

TABLE 4.—*Theoretical Zeeman effects (octet system)*—Continued

$^8G_1$–$^8G'_1$ (0.00), 1.33.
$^8G_1$–$^8G'_2$, $^8G_2$–$^8G'_1$ (1.13), −0.20, +**2.07.**
$^8G_2$–$^8G'_2$ (0.00), 0.93.
$^8G_2$–$^8G'_3$, $^8G_3$–$^8G'_2$ (**0.16,** 0.48), 0.77, 1.09, 1.42, **1.74.**
$^8G_3$–$^8G'_3$ (0.00), 1.26.
$^8G_3$–$^8G'_4$, $^8G_4$–$^8G'_3$ (**0.05,** 0.16, 0.27), 1.10, 1.20, 1.31, 1.42, 1.53, **1.63.**
$^8G_4$–$^8G'_4$ (0.00), 1.37.
$^8G_4$–$^8G'_5$, $^8G_5$–$^8G'_4$ (**0.02,** 0.07, 0.12, 0.17), 1.24, 1.29, 1.34, 1.39, 1.44, 1.49, 1.54, 1.59.
$^8G_5$–$^8G'_5$ (0.00), 1.41.
$^8G_5$–$^8G'_6$, $^8G_6$–$^8G'_5$ (**0.01,** 0.04, 0.07, 0.09, 0.12), 1.32, 1.35, 1.38, 1.40, 1.43, 1.45, 1.48, 1.51, 1.54, **1.56.**
$^8G_6$–$^8G'_6$ (0.00), 1.44.
$^8G_6$–$^8G'_7$, $^8G_7$–$^8G'_6$ (**0.01,** 0.02, 0.04, 0.06, 0.07, 0.09), 1.37, 1.39, 1.40, 1.42, 1.43, 1.45, 1.46, 1.48, 1.50, 1.51, 1.53, **1.54.**
$^8G_7$–$^8G'_7$ (0.00), 1.46.
$^8G_7$–$^8G'_8$, $^8G_8$–$^8G'_7$ (**0.01,** 0.02, 0.03, 0.04, 0.05, 0.06, 0.07), 1.40, 1.41, 1.42, 1.43, 1.44, 1.45, 1.46, 1.47, 1.48, 1.49, 1.50, 1.51, 1.52, **1.53.**
$^8G_8$–$^8G'_8$ (0.00), 1.47.

TABLE 5.—*Theoretical Zeeman effects (doublet-quartet intersystem)*

$^2S_1$–$^4S'_2$ (0.00), 2.00.

$^2S_1$–$^4P_1$ (0.33), 2.33.
$^2S_1$–$^4P_2$ (0.13), **1.60,** 1.87.

$^2S_1$–$^4D'_1$ (1.00), 1.00.
$^2S_1$–$^4D'_2$ (0.40), **0.80,** 1.60.

$^2S_1$–$^4F_2$ (0.80), −**0.40,** +1.20.

$^2P_1$–$^4S_2$ (0.67), 1.33, **2.67.**
$^2P_2$–$^4S_2$ (0.33, **1.00**), 1.00, **1.67,** 2.33.

$^2P_1$–$^4P'_1$ (1.00), 1.67.
$^2P_1$–$^4P'_2$ (0.53), 1.20, **2.27.**
$^2P_2$–$^4P'_1$ (0.67), **0.67,** 2.00.
$^2P_2$–$^4P'_2$ (0.20, **0.60**), 1.13, **1.53,** 1.93.
$^2P_2$–$^4P'_3$ (**0.13,** 0.40), 1.20, 1.47, 1.73, **2.00.**

$^2P_1$–$^4D_1$ (0.33), 0.33.
$^2P_1$–$^4D_2$ (0.27), 0.93, **1.47.**
$^2P_2$–$^4D_1$ (0.67), 0.67, **2.00.**
$^2P_2$–$^4D_2$ (0.07, **0.20**), 1.13, **1.27.** 1.40.
$^2P_2$–$^4D_3$ (**0.02,** 0.06), 1.31, 1.35, 1.39, **1.43.**

$^2P_1$–$^4F'_2$ (0.13), **0.27,** 0.53.
$^2P_2$–$^4F'_2$ (0.47, **1.40**), −0.07, +**0.87,** 1.80.
$^2P_2$–$^4F'_3$ (**0.15,** 0.46), **0.57,** 0.88, 1.18, 1.49.

$^2P_2$–$^4G_3$ (**0.38,** 1.14), −**0.57,** +0.19, 0.95.

$^2D_2$–$^4S'_2$ (0.60, **1.80**), 0.20, **1.40,** 2.60.
$^2D_3$–$^4S'_2$ (**0.40,** 1.20), **0.00,** 0.80, 1.60, 2.40.

$^2D_2$–$^4P_1$ (0.93), **0.13,** 1.73.
$^2D_2$–$^4P_2$ (0.47, **1.40**), 0.33, **1.27,** 2.20.
$^2D_2$–$^4P_3$ (**0.40,** 1.20), 0.40, 1.20, 2.00, **2.80,**
$^2D_3$–$^4P_2$ (**0.27,** 0.80), **0.40,** 0.93, 1.47, 2.00.
$^2D_3$–$^4P_3$ (0.20, 0.60, **1.00**), 0.60, 1.00, **1.40,** 1.80, 2.20.

$^2D_2$–$^4D'_1$ (0.40), 0.40, **1.20.**
$^2D_2$–$^4D'_2$ (0.20, **0.60**), 0.60, **1.00,** 1.40.
$^2D_2$–$^4D'_3$ (**0.29,** 0.86), 0.51, 1.08, 1.66, **2.23.**
$^2D_3$–$^4D'_2$ (0.00), 1.20.
$^2D_3$–$^4D'_3$ (0.09, 0.26, **0.43**), 0.94, 1.11, **1.29,** 1.46, 1.63.
$^2D_3$–$^4D'_4$ (**0.11,** 0.34, 0.57), 0.86, 1.09, 1.31, 1.54, 1.77, **2.00.**

TABLE 5.—*Theoretical Zeeman effects (doublet-quartet intersystem)*—Continued

$^2D_2$–$^4F_2$ (0.20, **0.60**), 0.20. **0.60**, 1.00.
$^2D_2$–$^4F_3$ (**0.11**, 0.34), 0.69, 0.91, 1.14, **1.37.**
$^2D_3$–$^4F_2$ (**0.40**, 1.20), 0.00, 0.80, 1.60, **2.40.**
$^2D_3$–$^4F_3$ (0.09, 0.26, **0.43**), 0.77, 0.94, **1.11**, 1.28, 1.44.
$^2D_3$–$^4F_4$ (**0.02**, 0.06, 0.10), 1.14, 1.18, 1.22, 1.26, **1.29.**

$^2D_2$–$^4G'_3$ (**0.11**, 0.34), **0.23**, 0.46, 0.69, 0.91.
$^2D_3$–$^4G'_3$ (0.31, 0.94, **1.57**), −0.37, +0.26, **0.88**, 1.51, 2.14.
$^2D_3$–$^4G'_4$ (**0.11**, 0.32, 0.54), **0.44**, 0.66, 0.88, 1.00, 1.31, 1.52.

$^2D_3$–$^4H_4$ (**0.27**, 0.80, 1.33), **−0.67**, −0.13, +0.40, 0.93, 1.47, **2.00.**

$^2F_3$–$^4S_2$ (**0.57**, 1.72), **−0.86**, +0.29, 1.43, 2.57.

$^2F_3$–$^4P'_2$ (**0.44**, 1.31), **−0.46**, +0.42, 1.30, 2.17.
$^2F_3$–$^4P'_3$ (0.37, 1.11, **1.86**), 0.26, 0.49, **1.23**, 1.97, 2.71.
$^2F_4$–$^4P'_3$ (**0.23**, 0.69, 1.14), **0.00**, 0.46, 0.91, 1.37, 1.83, 2.29.

$^2F_3$–$^4D_2$ (**0.17**, 0.51), **0.34**, 0.69, 1.03, 1.37.
$^2F_3$–$^4D_3$ (0.26, 0.77, **1.29**), 0.09, 0.60, **1.12**, 1.63, 2.14.
$^2F_3$–$^4D_4$ (**0.29**, 0.86, 1.43), 0.00, 0.57, 1.14, 1.71, 2.29, **2.86.**
$^2F_4$–$^4D_3$ (**0.11**, 0.34, 0.57), **0.57**, 0.80, 1.03, 1.26, 1.49, 1.71.
$^2F_4$–$^4D_4$ (0.14, 0.43, 0.71, **1.00**), 0.43, 0.71, 1.00, **1.29**, 1.57, 1.86, **2.14.**

$^2F_3$–$^4F'_2$ (**0.23**, 0.69), 0.17, 0.63, 1.09, **1.54.**
$^2F_3$–$^4F'_3$ (0.09, 0.26, **0.43**), 0.60, 0.77, **0.94**, 1.12, 1.29.
$^2F_3$–$^4F'_4$ (**0.19**, 0.57, 0.95), 0.29, 0.67, 1.05, 1.43, 1.81, **2.19.**
$^2F_4$–$^4F'_3$ (**0.06**, 0.17, 0.29), 0.86, 0.97, 1.09, 1.20, 1.31, **1.43.**
$^2F_4$–$^4F'_4$ (0.05, 0.14, 0.24, **0.33**), 0.90, 1.00, 1.10, **1.19**, 1.29, 1.38, 1.48.
$^2F_4$–$^4F'_5$ (**0.10**, 0.29, 0.48, 0.67), 0.67, 0.86, 1.05, 1.24, 1.43, 1.62, 1.81, **2.00.**

$^2F_3$–$^4G_3$ (0.14, 0.43, **0.71**), 0.14, 0.43, **0.71**, 1.00, 1.29.
$^2F_3$–$^4G_4$ (**0.06**, 0.19, 0.32), 0.67, 0.79, 0.92, 1.05, 1.18, **1.30.**
$^2F_4$–$^4G_3$ (**0.29**, 0.86, 1.43), −0.29, +0.29, 0.86, 1.43, 2.00, **2.57.**
$^2F_4$–$^4G_4$ (0.08, 0.24, 0.40, **0.56**), 0.59, 0.75, 0.91, **1.06**, 1.22, 1.38, 1.54.
$^2F_4$–$^4G_5$ (**0.02**, 0.04, 0.07, 0.10), 1.07, 1.10, 1.13, 1.16, 1.19, 1.22, 1.24, **1.27.**

$^2F_3$–$^4H'_4$ (**0.10**, 0.29, 0.48), **0.19**, 0.38, 0.57, 0.76, 0.95, 1.14.
$^2F_4$–$^4H'_4$ (0.24, 0.71, 1.19, **1.67**), −0.52, −0.05, +0.43, **0.90**, 1.38, 1.86, 2.33.
$^2F_4$–$^4H'_5$ (**0.03**, 0.26, 0.43, 0.61), **0.36**, 0.54, 0.71, 0.88, 1.06, 1.23, 1.40, 1.58.

$^2F_4$–$^4I_5$ (**0.21**, 0.62, 1.04, 1.46), **−0.73**, −0.31, +0.10, 0.52, 0.94, 1.35, 1.77, 2.18.

$^2G_4$–$^4D'_3$ (**0.24**, 0.72, 1.21), **−0.32**, +0.16, 0.65, 1.13, 1.61, 2.09.
$^2G_4$–$^4D'_4$ (0.27, 0.81, 1.35, **1.89**), −0.46, +0.08, 0.62, **1.16**, 1,70, 2.24, 2.78.
$^2G_5$–$^4D'_4$ (**0.16**, 0.48, 0.79, 1.11), **0.00**, 0.32, 0.63, 0.95, 1.27, 1.59, 1.90, 2.22.

$^2G_4$–$^4F_3$ (**0.07**, 0.21, 0.35), **0.54**, 0.68, 0.82, 0.96, 1.10, 1.24.
$^2G_4$–$^4F_4$ (0.17, 0.52, 0.87, **1.22**), 0.02, 0.37, 0.71, **1.06**, 1.41, 1.76, 2.11.
$^2G_4$–$^4F_5$ (**0.22**, 0.67, 1.11, 1.56), −0.22, +0.22, 0.67, 1.11, 1.56, 2.00, 2.44, **2.89.**
$^2G_5$–$^4F_4$ (**0.06**, 0.19, 0.32, 0.44), **0.67**, 0.80, 0.92, 1.05, 1.18, 1.30, 1.43, 1.56.
$^2G_5$–$^4F_5$ (0.11, 0.33, 0.56, 0.78, **1.00**), 0.33, 0.56, 0.78, 1.00, **1.22**, 1.44, 1.67, 1.89, 2.11.

$^2G_4$–$^4G'_3$ (**0.16**, 0.48, 0.79), 0.10, 0.41, 0.73, 1.05, 1.37, **1.68.**
$^2G_4$–$^4G'_4$ (0.05, 0.14, 0.24, **0.33**), 0.65, 0.75, 0.84, **0.94**, 1.03, 1.13, 1.22.
$^2G_4$–$^4G'_5$ (**0.14**, 0.42, 0.71, 0.99), 0.18, 0.46, 0.75, 1.03, 1.31, 1.60, 1.88, **2.16.**
$^2G_5$–$^4G'_4$ (**0.06**, 0.19, 0.32, 0.44), 0.67, 0.79, 0.92, 1.05, 1.17, 1.30, 1.43, **1.56.**
$^2G_5$–$^4G'_5$ (0.03, 0.09, 0.15, 0.21, **0.27**), 0.90, 0.96, 1.02, 1.08, **1.14**, 1.20, 1.26, 1.32, 1.38.
$^2G_5$–$^4G'_6$ (**0.08**, 0.24, 0.40, 0.56, 0.73), 0.55, 0.71, 0.87, 1.03, 1.19, 1.35, 1.51, 1.68, 1.84, **2.00.**

$^2G_4$–$^4H_4$ (0.11, 0.33, 0.56, **0.78**), 0.11, 0.33, 0.56, **0.78**, 1.00, 1.22, 1.44.
$^2G_4$–$^4H_5$ (**0.04**, 0.12, 0.20, 0.28), 0.69, 0.77, 0.85, 0.93, 1.01, 1.09, 1.17, **1.25.**
$^2G_5$–$^4H_4$ (**0.22**, 0.67, 1.11, 1.56), −0.44, 0.00, 0.44, 0.89, 1.33, 1.78, 2.22, **2.67.**
$^2G_5$–$^4H_5$ (0.07, 0.21, 0.35, 0.49, **0.64**), 0.47, 0.62, 0.76, 0.90, **1.04**, 1.18, 1.32, 1.46, 1.61.
$^2G_5$–$^4H_6$ (**0.01**, 0.03, 0.05, 0.08, 0.10), 1.04, 1.06, 1.08, 1.10, **1.12**, 1.14, 1.17, 1.19, 1.21, **1.23.**

$^2H_5$–$^4F'_4$ (**0.16**, 0.49, 0.82, 1.15), **−0.24**, +0.09, 0.41, 0.74, 1.07, 1.40, 1.73, 2.06.
$^2H_5$–$^4F'_5$ (0.21, 0.64, 1.06, 1.49, **1.91**), −0.58, −0.15, +0.27, 0.70, **1.12**, 1.54, 1.97, 2.39, 2.82.
$^2H_6$–$^4F'_5$ (**0.12**, 0.36, 0.61, 0.85, 1.09), **0.00**, 0.24, 0.48, 0.73, 0.97, 1.21, 1.46, 1.70, 1.94, 2.18.

$^2H_5$–$^4G_4$ (**0.04**, 0.11, 0.19, 0.26), **0.65**, 0.72, 0.80, 0.87, 0.95, 1.02, 1.10, 1.17.
$^2H_5$–$^4G_5$ (0.13, 0.39, 0.66, 0.92, **1.18**), −0.02, +0.25, 0.51, 0.78, **1.04**, 1.30, 1.56, 1.83, 2.07.
$^2H_5$–$^4G_6$ (**0.18**, 0.54, 0.91, 1.27, 1.64), −0.36, 0.00, 0.36, 0.73, 1.09, 1.45, 1.82, 2.18, 2.54, **2.91.**
$^2H_6$–$^4G_5$ (**0.04**, 0.12, 0.20, 0.28, 0.36), **0.73**, 0.81, 0.89, 0.97, 1.05, 1.13, 1.21, 1.29, 1.37, 1.45.
$^2H_6$–$^4G_6$ (0.09, **0.27**, 0.45, 0.64, 0.82, **1.00**), 0.27, 0.45, 0.64, 0.82, 1.00, **1.18**, 1.36, 1.55, 1.73, 1.91, **2.09.**

TABLE 5.—*Theoretical Zeeman effects (doublet-quartet intersystem)*—Continued

$^2H_5$–$^4H'_4$ (**0.12,** 0.36, 0.60, 0.85), 0.06, 0.30, 0.55, 0.79, 1.03, 1.27, 1.51, **1.75.**
$^2H_5$–$^4H'_5$ (0.03, 0.09, 0.15, 0.22, **0.28**), 0.69, 0.75, 0.82, 0.88, **0.94,** 1.00, 1.06, 1.12, 1.19.
$^2H_5$–$^4H'_6$ (**0.11,** 0.34, 0.56, 0.79, 1.02), 0.12, 0.34, 0.57, 0.80, 1.02, 1.25, 1.47, 1.70, 1.91, **2.15.**
$^2H_6$–$^4H'_5$ (**0.06,** 0.18, 0.30, 0.43, 0.55), 0.54, 0.67, 0.79, 0.91, 1.03, 1.15, 1.27, 1.40, 1.52, **1.64.**
$^2H_6$–$^4H'_6$ (0.02, 0.06, 0.10, 0.15, 0.19, **0.23**), 0.90, 0.94, 0.99, 1.03, 1.07, **1.11,** 1.15, 1.20, 1.24, 1.28, 1.32.
$^2H_6$–$^4H'_7$ (**0.07,** 0.21, 0.35, 0.48, 0.62, 0.76), 0.47, 0.61, 0.75, 0.88, 1.02, 1.16, 1.30, 1.44, 1.58, 1.71, 1.85, **1.99.**

TABLE 6.—*Theoretical Zeeman effects (quartet-sextet intersystem)*

$^4S_2$–$^6S'_3$ (0.00), 2.00.

$^4S_2$–$^6P_2$ (0.20, **0.60**), 1.80, **2.20,** 2.60.
$^4S_2$–$^6P_3$ (**0.06,** 0.17), **1.71,** 1.83, 1.94, 2.06.

$^4S_2$–$^6D'_1$ (0.67), **1.33,** 2.67.
$^4S_2$–$^6D'_2$ (0.07, **0.20**), 1.80, **1.93,** 2.07.
$^4S_2$–$^6D'_3$ (**0.17,** 0.51), **1.14,** 1.49, 1.83, 2.17.

$^4S_2$–$^6F_1$ (1.33), 0.67, **3.33.**
$^4S_2$–$^6F_2$ (0.47, **1.40**), 0.60, **1.53,** 2.47.
$^4S_2$–$^6F_3$ (**0.34,** 1.03), **0.29,** 0.97, 1.66, 2.34.

$^4P_2$–$^6S_3$ (**0.13,** 0.40), 1.60, 1.87, 2.13, **2.40.**
$^4P_3$–$^6S_3$ (0.20, 0.60, **1.00**), 1.00, 1.40, **1.80,** 2.20, **2.60.**

$^4P_1$–$^6P'_2$ (0.13), **2.27,** 2.53.
$^4P_2$–$^6P'_2$ (0.33, **1.00**), 1.40, **2.07,** 2.73.
$^4P_2$–$^6P'_3$ (**0.08,** 0.23), 1.16, 1.81, 1.96, **2.11.**
$^4P_3$–$^6P'_2$ (**0.40,** 1.20), **0.40,** 1.20, 2.00, 2.80.
$^4P_3$–$^6P'_3$ (0.14, 0.43, **0.71**), 1.17, 1.46, **1.74,** 2.02, 2.31.
$^4P_3$–$^6P'_4$ (**0.06,** 0.17, 0.29), 1.43, 1.54, 1.66, 1.77, 1.88, **2.00.**

$^4P_1$–$^6D_1$ (0.33), 3.00.
$^4P_1$–$^6D_2$ (0.40), **1.47,** 2.27.
$^4P_2$–$^6D_1$ (0.80), **0.93,** 2.53.
$^4P_2$–$^6D_2$ (0.07, **0.20**), 1.67, **1.80,** 1.93.
$^4P_2$–$^6D_3$ (**0.04,** 0.11), **1.54,** 1.62, 1.70, 1.77.
$^4P_3$–$^6D_2$ (**0.13,** 0.40), **1.20,** 1.47, 1.73, 2.00.
$^4P_3$–$^6D_3$ (0.03, 0.09, **0.14**), 1.51, 1.57, **1.63,** 1.68, 1.74.
$^4P_3$–$^6D_4$ (**0.01,** 0.02, 0.03), **1.56,** 1.57, 1.58, 1.59, 1.61, **1.62.**

$^4P_1$–$^6F'_1$ (1.67), 1.00.
$^4P_1$–$^6F'_2$ (0.80), **0.27,** 1.87.
$^4P_2$–$^6F'_1$ (1.20), 0.53, **2.93.**
$^4P_2$–$^6F_2$ (0.33, **1.00**), 0.73, **1.40,** 2.07.
$^4P_2$–$^6F'_3$ (**0.21,** 0.63), **0.69,** 1.10, 1.52, 1.94.
$^4P_3$–$^6F'_2$ (**0.27,** 0.80), 0.80, 1.33, 1.87, **2.40.**
$^4P_3$–$^6F'_3$ (0.14, 0.43, **0.71**), 0.89, 1.17, **1.46,** 1.74, 2.03.
$^4P_3$–$^6F'_4$ (**0.10,** 0.30, 0.51), **0.89,** 1.09, 1.30, 1.50, 1.70, 1.90.

$^4D_2$–$^6S'_3$ (**0.40,** 1.20), 0.80, 1.60, 2.40, **3.20.**
$^4D_3$–$^6S'_3$ (0.30, 0.94, **1.57**), 0.43, 1.06, **1.69,** 2.31, 2.94.
$^4D_4$–$^6S'_3$ (**0.29,** 0.86, 1.43), **0.00,** 0.57, 1.14, 1.71, 2.28, 2.86.

$^4D_1$–$^6P_2$ (1.20), 1.20, **3.60.**
$^4D_2$–$^6P_2$ (0.60, **1.80**), 0.60, **1.80,** 3.00.
$^4D_2$–$^6P_3$ (**0.34,** 1.03), 0.86, 1.54, 2.23, **2.91.**
$^4D_3$–$^6P_2$ (**0.51,** 1.54), **−0.17,** +0.86, 1.88, 2.91.
$^4D_3$–$^6P_3$ (0.26, 0.77, **1.28**), 0.60, 1.11, **1.63,** 2.14, 2.66.
$^4D_3$–$^6P_4$ (**0.17,** 0.51, 0.86), 0.86, 1.20, 1.54, 1.88, 2.23, **2.57.**
$^4D_4$–$^6P_3$ (**0.23,** 0.69, 1.14), **0.29,** 0.74, 1.20, 1.66, 2.11, 2.57.
$^4D_4$–$^6P_4$ (0.14, 0.43, 0.71, **1.00**), 0.71, 1.00, 1.28, **1.57,** 1.85, 2.14, 2.43.

$^4D_1$–$^6D'_1$ (1.67), 1.67.
$^4D_1$–$^6D'_2$ (0.93), 0.93, **2.80.**
$^4D_2$–$^6D'_1$ (1.07), **0.13,** 2.27.

TABLE 6.—*Theoretical Zeeman effects (quartet-sextet intersystem)*—Continued

$^4D_2$–$^6D'_2$ (0.33, **1.00**), 0.87, **1.53**, 2.20.
$^4D_2$–$^6D'_3$ (**0.23**, 0.69), 0.97, 1.43, 1.88, **2.34**.
$^4D_3$–$^6D'_2$ (**0.25**, 0.74), 0.63, 1.12, 1.62, 2.11.
$^4D_3$–$^6D'_3$ (0.14, 0.43, **0.71**), 0.94, 1.23, **1.51**, 1.80, 2.08.
$^4D_3$–$^6D'_4$ (**0.11**, 0.32, 0.54), 1.05, 1.26, 1.48, 1.70, 1.91, **2.13**.
$^4D_4$–$^6D'_3$ (**0.11**, 0.34, 0.57), **0.86**, 1.08, 1.31, 1.54, 1.77, 2.00.
$^4D_4$–$^6D'_4$ (0.08, 0.24, 0.40, **0.56**), 1.03, 1.19, 1.35, **1.51**, 1.67, 1.83, 1.99.
$^4D_4$–$^6D'_5$ (**0.06**, 0.19, 0.32, 0.44), 1.11, 1.24, 1.36, 1.49, 1.62, 1.75, 1.87, **2.00**.

$^4D_1$–$^6F_1$ (0.33), 0.33.
$^4D_1$–$^6F_2$ (0.53), 0.53, **1.60**.
$^4D_2$–$^6F_1$ (0.93), 0.27, **2.13**.
$^4D_2$–$^6F_2$ (0.07, **0.20**), 1.00, **1.13**, 1.27.
$^4D_2$–$^6F_3$ (**0.06**, 0.17), 1.14, 1.26, 1.37, **1.49**.
$^4D_3$–$^6F_2$ (**0.15**, 0.46), 0.91, 1.22, 1.52, **1.83**.
$^4D_3$–$^6F_3$ (0.03, 0.09, **0.14**), 1.23, 1.29, **1.34**, 1.40, 1.46.
$^4D_3$–$^6F_4$ (**0.01**, 0.04, 0.06), 1.33, 1.36, 1.38, 1.41, 1.43, **1.46**.
$^4D_4$–$^6F_3$ (**0.06**, 0.17, 0.29), 1.14, 1.26, 1.37, 1.48, 1.60, **1.71**.
$^4D_4$–$^6F_4$ (0.02, 0.05, 0.08, **0.11**), 1.32, 1.35, 1.38, **1.41**, 1.44, 1.48, 1.51.
$^4D_4$–$^6F_5$ (**0.00**, 0.01, 0.01, 0.02), 1.41, 1.42, 1.42, 1.43, 1.44, 1.44, 1.45, **1.46**.

$^4D_1$–$^6G'_2$ (0.00), 0.00.
$^4D_2$–$^6G'_2$ (0.60, **1.80**), −0.60, +**0.60**, 1.80.
$^4D_2$–$^6G'_3$ (**0.17**, 0.51), **0.34**, 0.69, 1.03, 1.37.
$^4D_3$–$^6G'_2$ (**0.69**, 2.06), −0.69, +0.69, 2.06, **3.43**.
$^4D_3$–$^6G'_3$ (0.26, 0.77, **1.28**), 0.09, 0.60, **1.11**, 1.63, 2.14.
$^4D_3$–$^6G'_4$ (**0.11**, 0.34, 0.57), **0.57**, 0.80, 1.03, 1.26, 1.48, 1.71.
$^4D_4$–$^6G'_3$ (**0.29**, 0.86, 1.43), 0.00, 0.57, 1.14, 1.71, 2.29, **2.86**.
$^4D_4$–$^6G'_4$ (0.14, 0.43, 0.71, **1.00**), 0.43, 0.71, 1.00, **1.28**, 1.57, 1.86, 2.14.
$^4D_4$–$^6G'_5$ (**0.08**, 0.23, 0.39, 0.54), **0.73**, 0.88, 1.04, 1.19, 1.35, 1.50, 1.66, 1.82.

$^4F_2$–$^6S_3$ (**0.80**, 2.40), −0.40, +1.20, 2.80, **4.40**,
$^4F_3$–$^6S_3$ (0.48, 1.46, **2.43**), −0.43, +0.54, **1.51**, 2.48, 3.46.
$^4F_4$–$^6S_3$ (**0.38**, 1.14, 1.90), −**0.67**, +0.10, 0.86, 1.62, 2.38, 3.14.

$^4F_2$–$^6P'_2$ (1.00, **3.00**), −0.60, +**1.40**. 3.40.
$^4F_2$–$^6P'_3$ (**0.74**, 2.23), −0.34, +1.14, 2.63, **4.11**.
$^4F_3$–$^6P'_2$ (**0.69**, 2.06), −**1.03**, +0.34, 1.71, 3.09.
$^4F_3$–$^6P'_3$ (0.43, 1.29, **2.14**), −0.26, +0.60, **1.46**, 2.32, 3.17.
$^4F_3$–$^6P'_4$ (**0.34**, 1.03, 1.71), 0.00, 0.69, 1.37, 2.06, 2.74, **3.43**.
$^4F_4$–$^6P'_3$ (**0.32**, 0.97, 1.62), −**0.38**, +0.27, 0.91, 1.56, 2.21, 2.86.
$^4F_4$–$^6P'_4$ (0.24, 0.71, 1.19, **1.67**), 0.05, 0.52, 1.00, **1.47**, 1.95, 2.43, 2.90.

$^4F_2$–$^6D_1$ (1.47), **1.67**, 1.87.
$^4F_2$–$^6D_2$ (0.73, **2.20**), −0.33, +**1.13**. 2.60.
$^4F_2$–$^6D_3$ (**0.63**. 1.88), −0.23, +1.03, 2.28, **3.54**.
$^4F_3$–$^6D_2$ (**0.42**, 1.26), −**0.23**, +0.61, 1.45, 2.29.
$^4F_3$–$^6D_3$ (0.31, 0.94, **1.57**), 0.09, 0.71, **1.34**, 1.97, 2.60.
$^4F_3$–$^6D_4$ (**0.28**, 0.84, 1.40), 0.19, 0.75, 1.31, 1.87, 2.42, **2.98**.
$^4F_4$–$^6D_3$ (**0.21**, 0.63, 1.05), **0.19**, 0.61, 1.03, 1.45, 1.87, 2.28.
$^4F_4$–$^6D_4$ (0.17, 0.52, 0.87, **1.22**), 0.36, 0.71, 1.06, **1.41**, 1.76, 2.11, 2.46.
$^4F_4$–$^6D_5$ (**0.16**, 0.48, 0.79, 1.11), 0.44, 0.76, 1.08, 1.40, 1.72, 2.03, 2.35, **2.67**.
$^4F_5$–$^6D_4$ (**0.13**, 0.38, 0.64, 0.89), **0.44**, 0.70, 0.95, 1.21, 1.46, 1.71, 1.97, 2.22.
$^4F_5$–$^6D_5$ (0.11, 0.33, 0.56, 0.78, **1.00**), 0.56, 0.78, 1.00, 1.22, **1.44**. 1.67, 1.89, 2.11, 2.33.

$^4F_2$–$^6F'_1$ (0.53), −0.13, +**0.93**.
$^4F_2$–$^6F'_2$ (0.33, **1.00**), 0.07, **0.73**, 1.40.
$^4F_2$–$^6F'_3$ (**0.46**, 1.37), −0.06, +0.86, 1.77, **2.68**.
$^4F_3$–$^6F'_2$ (**0.02**, 0.06), **0.97**, 1.01, 1.05, 1.09.
$^4F_3$–$^6F'_3$ (0.14, 0.43, **0.71**), 0.60, 0.89, **1.17**, 1.46, 1.74.
$^4F_3$–$^6F'_4$ (**0.18**, 0.55, 0.92), 0.48, 0.84, 1.21, 1.58, 1.95, **2.32**.
$^4F_4$–$^6F'_3$ (**0.04**, 0.11, 0.19), **1.05**, 1.12, 1.20, 1.28, 1.35, 1.43.
$^4F_4$–$^6F'_4$ (0.08, 0.24, 0.40, **0.56**), 0.84, 1.00, 1.16, **1.32**, 1.48, 1.64, 1.79.
$^4F_4$–$^6F'_5$ (**0.10**, 0.29, 0.49, 0.69), 0.75, 0.94, 1.14, 1.34, 1.53, 1.73, 1.93, **2.12**.
$^4F_5$–$^6F'_4$ (**0.03**, 0.10, 0.16, 0.22), **1.11**, 1.17, 1.24, 1.30, 1.36, 1.43, 1.49, 1.56.
$^4F_5$–$^6F'_5$ (0.05, 0.15, 0.25, 0.35, **0.45**), 0.98, 1.08, 1.18, 1.28, **1.38**, 1.48, 1.59, 1.69, 1.79.
$^4F_5$–$^6F'_6$ (**0.06**, 0.18, 0.30, 0.42, 0.55), 0.91, 1.03, 1.15, 1.27, 1.40, 1.52, 1.64, 1.76, 1.88, **2.00**.

TABLE 6.—*Theoretical Zeeman effects (quartet-sextet intersystem)*—Continued

$^4F_2$–$^6G_2$ (0.20, **0.60**), −0.20, +**0.20**, 0.60.
$^4F_2$–$^6G_3$ (**0.23**, 0.69), 0.17, 0.63, 1.08, **1.54**.
$^4F_3$–$^6G_2$ (**0.51**, 1.54), −0.51, +0.51, 1.54, **2.57**.
$^4F_3$–$^6G_3$ (0.09, 0.26, **0.43**), 0.60, 0.77, **0.94**, 1.11, 1.28.
$^4F_3$–$^6G_4$ (**0.06**, 0.17, 0.29), 0.86, 0.97, 1.20, 1.31, **1.43**.
$^4F_4$–$^6G_3$ (**0.19**, 0.57, 0.95), 0.29, 0.67, 1.05, 1.43, 1.81, **2.19**.
$^4F_4$–$^6G_4$ (0.05, 0.14, 0.24, **0.33**), 0.90, 1.00, 1.09, **1.19**, 1.28, 1.38, 1.48.
$^4F_4$–$^6G_5$ (**0.02**, 0.05, 0.09, 0.12), 1.15, 1.18, 1.22, 1.25, 1.29, 1.32, 1.36, **1.39**.
$^4F_5$–$^6G_4$ (**0.10**, 0.29, 0.48, 0.67), 0.67, 0.86, 1.05, 1.24, 1.43, 1.62, 1.81, **2.00**.
$^4F_5$–$^6G_5$ (0.03, 0.09, 0.15, 0.21, **0.27**), 1.06, 1.12, 1.18, 1.24, **1.30**, 1.36, 1.42, 1.48, 1.55.
$^4F_5$–$^6G_6$ (**0.00**, 0.01, 0.02, 0.03, 0.04), 1.30, 1.31, 1.32, 1.33, 1.34, 1.35, 1.36, 1.37, 1.38, **1.39**.

$^4G_3$–$^6F_2$ (**0.25**, 0.74), −**0.17**, +0.32, 0.82, 1.31.
$^4G_3$–$^6F_3$ (0.37, 1.11, **1.86**), −0.54, +0.20, **0.94**, 1.68, 2.43.
$^4G_3$–$^6F_4$ (**0.41**, 1.24, 2.06), −0.66, +0.16, 0.98, 1.81, 2.63, **3.46**.
$^4G_4$–$^6F_3$ (**0.16**, 0.49, 0.82), **0.16**, 0.49, 0.82, 1.15, 1.48, 1.81.
$^4G_4$–$^6F_4$ (0.21, 0.62, 1.03, **1.44**), −0.05, +0.36, 0.78, **1.19**, 1.60, 2.01, 2.43.
$^4G_4$–$^6F_5$ (**0.22**, 0.67, 1.12, 1.57), −0.14, +0.31, 0.76, 1.21, 1.66, 2.11, 2.56, **3.01**.
$^4G_5$–$^6F_4$ (**0.11**, 0.34, 0.56, 0.79), **0.39**, 0.61, 0.84, 1.06, 1.28, 1.51, 1.73, 1.96.
$^4G_5$–$^6F_5$ (0.13, 0.39, 0.66, 0.92, **1.18**), 0.25, 0.52, 0.78, 1.04, **1.30**, 1.56, 1.83, 2.09, 2.35.
$^4G_5$–$^6F_6$ (**0.14**, 0.42, 0.71, 0.99, 1.28), 0.18, 0.46, 0.75, 1.03, 1.31, 1.60, 1.88, 2.17, 2.45, **2.73**.
$^4G_6$–$^6F_5$ (**0.08**, 0.24, 0.40, 0.57, 0.73), **0.54**, 0.71, 0.87, 1.03, 1.19, 1.35, 1.51, 1.68, 1.84, 2.00.
$^4G_6$–$^6F_6$ (0.09, 0.27, 0.46, 0.64, 0.83, **1.01**), 0.44, 0.63, 0.81, 1.00, 1.18, **1.36**, 1.55, 1.73, 1.92, 2.10, 2.28.

$^4G_3$–$^6G'_2$ (**0.29**, 0.86), −0.29, +0.29, 0.86, **1.43**.
$^4G_3$–$^6G'_3$ (0.14, 0.43, **0.71**), 0.15, 0.43, **0.71**, 1.00, 1.28.
$^4G_3$–$^6G'_4$ (**0.29**, 0.86, 1.43), −0.29, +0.29, 0.86, 1.43, 2.00, **2.57**.
$^4G_4$–$^6G'_3$ (**0.06**, 0.19, 0.32), 0.66, 0.79, 0.92, 1.05, 1.17, **1.30**.
$^4G_4$–$^6G'_4$ (0.08, 0.24, 0.40, **0.56**), 0.58, 0.74, 0.90, **1.06**, 1.22, 1.38, 1.54.
$^4G_4$–$^6G'_5$ (**0.14**, 0.43, 0.72, 1.01), 0.26, 0.55, 0.84, 1.13, 1.42, 1.70, 1.99, **2.28**.
$^4G_5$–$^6G'_4$ (**0.01**, 0.04, 0.07, 0.10), 1.07, 1.10, 1.13, 1.16, 1.19, 1.21, 1.24, **1.27**.
$^4G_5$–$^6G'_5$ (0.05, 0.15, 0.25, 0.35, **0.45**), 0.82, 0.92, 1.02, 1.12, **1.22**, 1.32, 1.42, 1.52, 1.62.
$^4G_5$–$^6G'_6$ (**0.08**, 0.26, 0.43, 0.60, 0.77), 0.57, 0.74, 0.91, 1.08, 1.26, 1.43, 1.60, 1.77, 1.95, **2.12**.
$^4G_6$–$^6G'_5$ (0.00), 1.27.
$^4G_6$–$^6G'_6$ (0.04, 0.11, 0.18, 0.25, 0.32, **0.40**), 0.95, 1.02, 1.09, 1.16, 1.24, **1.31**, 1.38, 1.45, 1.52, 1.60, 1.67.
$^4G_6$–$^6G'_7$ (**0.06**, 0.17, 0.28, 0.39, 0.50, 0.61), 0.77, 0.88, 0.99, 1.10, 1.22, 1.33, 1.44, 1.55, 1.66, 1.78, 1.89, **2.00**.

$^4G_3$–$^6H_3$ (0.14, 0.43, **0.71**), −0.14, +0.14, **0.43**, 0.71, 1.00.
$^4G_3$–$^6H_4$ (**0.13**, 0.38, 0.63), 0.19, 0.45, 0.70, 0.95, 1.20, **1.45**.
$^4G_4$–$^6H_3$ (**0.35**, 1.05, 1.74), −0.76, −0.06, +0.63, 1.33, 2.03, **2.73**.
$^4G_4$–$^6H_4$ (0.08, 0.24, 0.40, **0.56**), 0.42, 0.58, 0.74, **0.90**, 1.06, 1.22, 1.38
$^4G_4$–$^6H_5$ (**0.04**, 0.13, 0.22, 0.31), 0.76, 0.85, 0.94, 1.03, 1.12, 1.20, 1.29, **1.38**.
$^4G_5$–$^6H_4$ (**0.17**, 0.52, 0.87, 1.22), −0.05, +0.30, 0.65, 1.00, 1.35, 1.69, 2.04, **2.39**.
$^4G_5$–$^6H_5$ (0.05, 0.15, 0.25, 0.35, **0.45**), 0.72, 0.82, 0.92, 1.02, **1.12**, 1.22, 1.32, 1.42, 1.52.
$^4G_5$–$^6H_6$ (**0.02**, 0.05, 0.08, 0.11, 0.14), 1.06, 1.09, 1.12, 1.16, 1.19, 1.22, 1.25, 1.28, 1.32, **1.35**.
$^4G_6$–$^6H_5$ (**0.10**, 0.30, 0.50, 0.70, 0.90), 0.37, 0.57, 0.77, 0.97, 1.17, 1.37, 1.57, 1.77, 1.97, **2.17**.
$^4G_6$–$^6H_6$ (0.03, 0.10, 0.17, 0.24, 0.30, **0.37**), 0.90, 0.97, 1.03, 1.10, 1.17, **1.24**, 1.31, 1.37, 1.44, 1.51, 1.58.
$^4G_6$–$^6H_7$ (**0.005**, 0.01, 0.02, 0.03, 0.04, 0.05), 1.23, 1.24, 1.25, 1.26, 1.27, 1.28, 1.29, 1.30, 1.31, 1.32, 1.33, **1.34**.

TABLE 7.—*Theoretical Zeeman effects (sextet-octet intersystem)*

$^6S_3$–$^8S'_4$ (0.00), 2.00.

$^6S_3$–$^8P_3$ (0.14, 0.43, **0.71**), 1.57, 1.86, **2.14**, 2.43, 2.72.
$^6S_3$–$^8P_4$ (**0.03**, 0.10, 0.16), **1.78**, 1.84, 1.90, 1.97, 2.03, 2.10.

$^6S_3$–$^8D'_2$ (**0.40**, 1.20), **0.80**, 1.60, 2.40, 3.20.
$^6S_3$–$^8D'_3$ (0.03, 0.09, **0.14**), 1.91, 1.97, **2.03**, 2.09, 2.14.
$^6S_3$–$^8D'_4$ (**0.10**, 0.29, 0.48), **1.33**, 1.52, 1.71, 1.90, 2.09, 2.28.

$^6S_3$–$^8F_2$ (0.00), 2.00.
$^6S_3$–$^8F_3$ (**0.14**, 0.43, 0.71), 1.28, 1.57, **1.86**, 2.14, 2.43.
$^6S_3$–$^8F_4$ (**0.19**, 0.57, 0.95), **0.67**, 1.05, 1.43, 1.81, 2.19, 2.57.

TABLE 7.—*Theoretical Zeeman effects (sextet-octet intersystem)*—Continued

$^6P_3$–$^8S_4$ (**0.06**, 0.17, 0.29), 1.71, 1.83, 1.94, 2.06, 2.17, **2.29.**
$^6P_4$–$^8S_4$ (0.14, 0.43, 0.71, **1.00**), 1.00, 1.29, 1.57, **1.86**, 2.14, 2.43, 2.72.

$^6P_2$–$^8P'_3$ (**0.06**, 0.17), **2.12**, 2.23, 2.34, 2.46.
$^6P_3$–$^8P'_3$ (0.20, 0.60, **1.00**), 1.29, 1.69, **2.08**, 2.48, 2.88.
$^6P_3$–$^8P'_4$ (**0.03**, 0.08, 0.13), 1.81, 1.86, 1.91, 1.96, 2.01, **2.06.**
$^6P_4$–$^8P'_3$ (**0.29**, 0.86, 1.43), **0.29**, 0.86, 1.43, 2.00, 2.57, 3.14.
$^6P_4$–$^8P'_4$ (0.11, 0.33, 0.56, **0.78**), 1.16, 1.38, 1.60, **1.83**, 2.05, 2.27, 2.49.
$^6P_4$–$^8P'_5$ (**0.03**, 0.10, 0.16, 0.22), 1.56, 1.62, **1.68**, **1.75**, 1.81, 1.87, 1.94, **2.00.**

$^6P_2$–$^8D_2$ (0.20, **0.60**), 2.20, **2.60**, 3.00.
$^6P_2$–$^8D_3$ (**0.17**, 0.51), **1.54**, 1.88, 2.23, 2.57.
$^6P_3$–$^8D_2$ (**0.46**, 1.37), **0.51**, 1.43, 2.34, 3.26.
$^6P_3$–$^8D_3$ (0.09, 0.26, **0.43**), 1.63, 1.80, **1.97**, 2.14, 2.32.
$^6P_3$–$^8D_4$ (**0.04**, 0.11, 0.19), **1.62**, 1.70, 1.77, 1.85, 1.92, 2.00.
$^6P_4$–$^8D_3$ (**0.17**, 0.51, 0.86), **0.86**, 1.20, 1.54, 1.88, 2.22, 2.57.
$^6P_4$–$^8D_4$ (0.05, 0.14, 0.24, **0.33**), 1.48, 1.57, 1.67, **1.76**, 1.86, 1.95, 2.05.
$^6P_4$–$^8D_5$ (**0.01**, 0.03, 0.04, 0.06), **1.64**, 1.65, 1.67, 1.69, 1.71, 1.72, 1.74, **1.76.**

$^6P_2$–$^8F'_1$ (0.80), **1.60**, 3.20.
$^6P_2$–$^8F'_2$ (**0.20**, 0.60), 1.80, **2.20**, 2.60.
$^6P_2$–$^8F'_3$ (**0.34**, 1.03), **0.68**, 1.37, 2.06, 2.74.
$^6P_3$–$^8F'_2$ (**0.06**, 0.17), **1.71**, 1.83, 1.94, 2.06.
$^6P_3$–$^8F'_3$ (0.09, 0.26, **0.43**), 1.46, 1.63, **1.80**, 1.97, 2.14.
$^6P_3$–$^8F'_4$ (**0.13**, 0.40, 0.67), **0.95**, 1.22, 1.49, 1.75, 2.02, 2.28.
$^6P_4$–$^8F'_3$ (0.00), 1.71.
$^6P_4$–$^8F'_4$ (0.05, 0.14, 0.24, **0.33**), 1.38, 1.48, 1.57, **1.67**, 1.76, 1.86, 1.95.
$^6P_4$–$^8F'_5$ (**0.07**, 0.21, 0.35, 0.48), **1.09**, 1.23, 1.37, 1.51, 1.65, 1.78, 1.92, 2.06.

$^6D_3$–$^8S'_4$ (**0.17**, 0.51, 0.86), 1.14, 1.48, 1.83, 2.17, 2.52, **2.86.**
$^6D_4$–$^8S'_4$ (0.21, 0.62, 1.03, **1.45**), 0.56, 0.97, 1.38, **1.79**, 2.21, 2.62, 3.03.
$^6D_5$–$^8S'_4$ (**0.22**, 0.67, 1.11, 1.56), **0.00**, 0.44, 0.89, 1.33, 1.78, 2.22, 2.67, 3.11.

$^6D_2$–$^8P_3$ (**0.21**, 0.63), 1.66, 2.08, 2.50, **2.92.**
$^6D_3$–$^8P_3$ (0.31, 0.94, **1.57**), 0.71, 1.34, **1.97**, 2.60, 3.23.
$^6D_3$–$^8P_4$ (**0.14**, 0.42, 0.70), 1.24, 1.52, 1.80, 2.08, 2.35, **2.63.**
$^6D_4$–$^8P_3$ (**0.35**, 1.05, 1.75), **−0.16**, +0.54, 1.24, 1.94, 2.64, 3.33.
$^6D_4$–$^8P_4$ (0.17, 0.52, 0.87, **1.22**), 0.71, 1.06, 1.41, **1.76**, 2.11, 2.46, 2.81.
$^6D_4$–$^8P_5$ (**0.10**, 0.29, 0.48, 0.67), 1.11, 1.30, 1.49, 1.68, 1.87, 2.06, 2.25, **2.45.**
$^6D_5$–$^8P_4$ (**0.19**, 0.57, 0.95, 1.33), **0.22**, 0.60, 0.98, 1.36, 1.74, 2.13, 2.51, 2.89.
$^6D_5$–$^8P_5$ (0.11, 0.33, 0.55, 0.78, **1.00**), 0.78, 1.00, 1.22, 1.44, **1.67**, 1.89, 2.11, 2.33, 2.55.

$^6D_1$–$^8D'_2$ (0.27), **2.53**, 3.07.
$^6D_2$–$^8D'_2$ (0.47, **1.40**), 1.40, **2.33**, 3.27.
$^6D_2$–$^8D'_3$ (**0.10**, 0.29), **1.77**, 1.96, 2.15, 2.34.
$^6D_3$–$^8D'_2$ (**0.57**, 1.71), **−0.06**, +1.09, 2.23, 3.37.
$^6D_3$–$^8D'_3$ (0.20, 0.60, **1.00**), 1.06, 1.46, **1.86**, 2.26, 2.66.
$^6D_3$–$^8D'_4$ (**0.08**, 0.23, 0.38), 1.43, 1.58, 1.73, 1.89, 2.04, **2.19.**
$^6D_4$–$^8D'_3$ (**0.24**, 0.70, 1.17), **0.41**, 0.88, 1.35, 1.82, 2.29, 2.76.
$^6D_4$–$^8D'_4$ (0.11, 0.33, 0.56, **0.78**), 1.03, 1.25, 1.48, **1.70**, 1.92, 2.14, 2.37.
$^6D_4$–$^8D'_5$ (**0.05**, 0.16, 0.27, 0.38), 1.31, 1.42, 1.53, 1.64, 1.75, 1.86, 1.97, **2.08.**
$^6D_5$–$^8D'_4$ (**0.13**, 0.38, 0.63, 0.89), **0.67**, 0.92, 1.17, 1.43, 1.68, 1.94, 2.19, 2.44.
$^6D_5$–$^8D'_5$ (0.07, 0.21, 0.35, 0.49, **0.64**), 1.06, 1.20, 1.34, 1.48, **1.63**, 1.77, 1.91, 2.05, **2.19.**
$^6D_5$–$^8D'_6$ (**0.04**, 0.12, 0.20, 0.28, 0.36), 1.27, 1.35, 1.43, 1.51, 1.60, 1.68, 1.76, 1.84, 1.92, **2.00.**

$^6D_1$–$^8F_1$ (0.33), 3,67.
$^6D_1$–$^8F_2$ (0.67), **1.33**, 2.67.
$^6D_2$–$^8F_1$ (1.07), **0.80**, 2.93.
$^6D_2$–$^8F_2$ (0.07, **0.20**), 1.80, **1.93**, 2.07.
$^6D_2$–$^8F_3$ (**0.08**, 0.23), **1.49**, 1.64, 1.79, 1.94.
$^6D_3$–$^8F_2$ (**0.17**, 0.51), **1.14**, 1.48, 1.83, 2.17.
$^6D_3$–$^8F_3$ (0.03, 0.09, **0.14**), 1.57, 1.63, **1.69**, 1.74, 1.80.
$^6D_3$–$^8F_4$ (**0.02**, 0.06, 0.10), **1.52**, 1.56, 1.60, 1.64, 1.68, 1.72.
$^6D_4$–$^8F_3$ (**0.06**, 0.19, 0.32), **1.27**, 1.40, 1.52, 1.65, 1.78, 1.90.
$^6D_4$–$^8F_4$ (0.02, 0.05, 0.08, **0.11**), 1.51, 1.54, 1.57, **1.60**, 1.63, 1.67, 1.70.
$^6D_4$–$^8F_5$ (**0.01**, 0.02, 0.03, 0.04), **1.54**, 1.55, 1.56, 1.57, 1.58, 1.59, 1.61, 1.62.
$^6D_5$–$^8F_4$ (**0.03**, 0.10, 0.16, 0.22), **1.33**, 1.40, 1.46, 1.52, 1.59, 1.65, 1.71, 1.78.
$^6D_5$–$^8F_5$ (0.01, 0.03, 0.05, 0.07, **0.09**), 1.48, 1.51, 1.53, 1.55, **1.57**, 1.59, 1.61, 1.63, 1.65.
$^6D_5$–$^8F_6$ (**0.00**, 0.00, 0.01, 0.01, 0.01), **1.54**, 1.54, 1.54, 1.54, 1.55, 1.55, 1.56, 1.56, 1.56, 1.57.

TABLE 7.—*Theoretical Zeeman effects (sextet-octet intersystem)*—Continued

$^6D_1$–$^8G'_1$ (2.33), 1.00.
$^6D_1$–$^8G'_2$ (1.20), **−0.27,** +2.13.
$^6D_2$–$^8G'_1$ (1.60), 0.27, **3.47.**
$^6D_2$–$^8G'_2$ (0.47, **1.40**), 0.47, **1.40,** 2.33.
$^6D_2$–$^8G'_3$ (**0.30,** 0.91), **0.34,** 0.95, 1.56, 2.17.
$^6D_3$–$^8G'_2$ (**0.36,** 1.08), 0.57, 1.29, 2.02, **2.74.**
$^6D_3$–$^8G'_3$ (0.20, 0.60, **1.00**), 0.66, 1.06, **1.45,** 1.86, 2.26.
$^6D_3$–$^8G'_4$ (**0.15,** 0.44, 0.73), **0.63,** 0.93, 1.22, 1.51, 1.80, 2.09.
$^6D_4$–$^8G'_3$ (**0.16,** 0.49, 0.82), 0.76, 1.09, 1.42, 1.75, 2.08, **2.42.**
$^6D_4$–$^8G'_4$ (0.11, 0.33, 0.55, **0.78**), 0.81, 1.03, 1.25, **1.47,** 1.70, 1.92, 2.14.
$^6D_4$–$^8G'_5$ (**0.09,** 0.26, 0.43, 0.61), **0.81,** 0.98, 1.15, 1.33, 1.50, 1.67, 1.85, 2.02.
$^6D_5$–$^8G'_4$ (**0.09,** 0.29, 0.48, 0.67), 0.89, 1.08, 1.27, 1.46, 1.65, 1.84, 2.03, **2.22.**
$^6D_5$–$^8G'_5$ (0.07, 0.21, 0.35, 0.49, **0.64**), 0.92, 1.06, 1.20, 1.34, **1.48,** 1.62, 1.77, 1.91, 2.05.
$^6D_5$–$^8G'_6$ (**0.06,** 0.17, 0.29, 0.40, 0.52), **0.92,** 1.04, 1.15, 1.27, 1.38, 1.50, 1.61, 1.73, 1.84, 1.96.

$^6F_2$–$^8P'_3$ (**0.61,** 1.83), 0.46, 1.68, 2.90, **4.12.**
$^6F_3$–$^8P'_3$ (0.49, 1.46, **2.43**), −0.14, +0.83, **1.80,** 2.77, 3.74.
$^6F_3$–$^8P'_4$ (**0.31,** 0.93, 1.55), 0.38, 1.00, 1.62, 2.24, 2.87, **3.49.**
$^6F_4$–$^8P'_3$ (**0.44,** 1.33, 2.22), **−0.82,** +0.06, 0.95, 1.84, 2.73, 3.62.
$^6F_4$–$^8P'_4$ (0.27, 0.81, 1.35, **1.89**), 0.05, 0.59, 1.13, **1.67,** 2.21, 2.75, 3.29.
$^6F_4$–$^8P'_5$ (**0.19,** 0.57, 0.95, 1.33), 0.44, 0.82, 1.21, 1.59, 1.97, 2.35, 2.73, **3.11.**
$^6F_5$–$^8P'_4$ (**0.25,** 0.75, 1.26, 1.76), **−0.32,** +0.18, 0.68, 1.18, 1.69, 2.19, 2.69, 3.19.
$^6F_5$–$^8P'_5$ (0.17, 0.52, 0.86, 1.20, **1.55**), 0.23, 0.58, 0.92, 1.26, **1.61,** 1.95, 2.29, 2.64, 2.98.
$^6F_6$–$^8P'_5$ (**0.16,** 0.48, 0.81, 1.13, 1.46), **0.00,** 0.32, 0.65, 0.97, 1.29, 1.62, 1.94, 2.26, 2.59, 2.91.

$^6F_1$–$^8D_2$ (1.73), 1.07, **4.53.**
$^6F_2$–$^8D_2$ (0.87, **2.60**), 0.20, **1.93,** 3.67.
$^6F_2$–$^8D_3$ (**0.49,** 1.48), 0.57, 1.56, 2.55, **3.54.**
$^6F_3$–$^8D_2$ (**0.74,** 2.23), **−0.91,** +0.57, 2.06, 3.54.
$^6F_3$–$^8D_3$ (0.37, 1.11, **1.86**), 0.20, 0.94, **1.69,** 2.43, 3.17.
$^6F_3$–$^8D_4$ (**0.25,** 0.74, 1.24), 0.57, 1.07, 1.56, 2.06, 2.55, **3.04.**
$^6F_4$–$^8D_3$ (**0.33,** 0.99, 1.65), **−0.25,** +0.41, 1.07, 1.72, 2.38, 3.04.
$^6F_4$–$^8D_4$ (0.21, 0.62, 1.03, **1.44**), 0.36, 0.78, 1.19, **1.60,** 2.02, 2.43, 2.84.
$^6F_4$–$^8D_5$ (**0.15,** 0.45, 0.75, 1.05), 0.65, 0.95, 1.25, 1.55, 1.85, 2.15, 2.45, **2.75.**
$^6F_5$–$^8D_4$ (**0.19,** 0.56, 0.93, 1.31), **0.12,** 0.50, 0.87, 1.25, 1.62, 2.00, 2.38, 2.75.
$^6F_5$–$^8D_5$ (0.13, 0.39, 0.66, 0.92, **1.18**), 0.52, 0.78, 1.04, 1.30, **1.57,** 1.83, 2.09, 2.35, 2.62.
$^6F_5$–$^8D_6$ (**0.10,** 0.30, 0.50, 0.71, 0.91), 0.73, 0.93, 1.13, 1.34, 1.54, 1.74, 1.94, 2.14, 2.34, **2.54.**
$^6F_6$–$^8D_5$ (**0.12,** 0.36, 0.61, 0.85, 1.09), **0.36,** 0.61, 0.85, 1.09, 1.33, 1.58, 1.82, 2.06, 2.30, 2.54.
$^6F_6$–$^8D_6$ (0.09, 0.27, 0.45, 0.64, 0.82, **1.00**), 0.64, 0.82, 1.00, 1.18, 1.36, **1.54,** 1.73, 1.91, 2.09, 2.27, 2.45.

$^6F_1$–$^8F'_1$ (2.33), 1.67.
$^6F_1$–$^8F'_2$ (1.33), 0.67, **3.33.**
$^6F_2$–$^8F'_1$ (1.47), **−0.40,** +2.53.
$^6F_2$–$^8F'_2$ (0.47, **1.40**), 0.60, **1.53,** 2.47.
$^6F_2$–$^8F'_3$ (**0.32,** 0.97), 0.74, 1.39, 2.04, **2.69.**
$^6F_3$–$^8F'_2$ (**0.34,** 1.03), **0.29,** 0.97, 1.66, 2.34.
$^6F_3$–$^8F'_3$ (0.20, 0.60, **1.00**), 0.71, 1.11, **1.51,** 1.91, 2.31.
$^6F_3$–$^8F'_4$ (**0.15,** 0.46, 0.76), 0.86, 1.16, 1.47, 1.77, 2.07, **2.38.**
$^6F_4$–$^8F'_3$ (**0.16,** 0.48, 0.79), **0.60,** 0.92, 1.24, 1.55, 1.87, 2.19.
$^6F_4$–$^8F'_4$ (0.11, 0.33, 0.55, **0.78**), 0.84, 1.06, 1.28, **1.51,** 1.73, 1.95, 2.17.
$^6F_4$–$^8F'_5$ (**0.09,** 0.27, 0.45, 0.63), 0.95, 1.13, 1.31, 1.49, 1.67, 1.84, 2.02, **2.20.**
$^6F_5$–$^8F'_4$ (**0.09,** 0.28, 0.46, 0.65), **0.79,** 0.97, 1.16, 1.34, 1.53, 1.71, 1.90, 2.08.
$^6F_5$–$^8F'_5$ (0.07, 0.21, 0.35, 0.49, **0.64**), 0.94, 1.08, 1.22, 1.36, **1.50,** 1.65, 1.79, 1.93, 2.07.
$^6F_5$–$^8F'_6$ (**0.06,** 0.18, 0.30, 0.41, 0.53), 1.02, 1.14, 1.26, 1.38, 1.50, 1.61, 1.73, 1.85, 1.97, **2.09.**
$^6F_6$–$^8F'_5$ (**0.06,** 0.18, 0.30, 0.42, 0.55), **0.91,** 1.03, 1.15, 1.27, 1.40, 1.52, 1.64, 1.76, 1.88, 2.00.
$^6F_6$–$^8F'_6$ (0.05, 0.15, 0.24, 0.34, 0.44, **0.54**), 1.01, 1.11, 1.21, 1.31, 1.41, **1.50,** 1.60, 1.70, 1.80, 1.90, 1.99.
$^6F_6$–$^8F'_7$ (**0.04,** 0.13, 0.21, 0.29, 0.38, 0.46), **1.08,** 1.16, 1.24, 1.33, 1.41, 1.50, 1.58, 1.66, 1.75, 1.83, 1.92, **2.00.**

$^6F_1$–$^8G_1$ (0.33), 1.00.
$^6F_1$–$^8G_2$ (0.80), 0.13, **1.73.**
$^6F_2$–$^8G_1$ (1.20), −0.13, **+2.27.**
$^6F_2$–$^8G_2$ (0.07, **0.20**), 0.87, **1.00,** 1.13.
$^6F_2$–$^8G_3$ (**0.09,** 0.29), 0.97, 1.16, 1.35, **1.54.**
$^6F_3$–$^8G_2$ (**0.19,** 0.57), 0.74, 1.12, 1.50, **1.89.**
$^6F_3$–$^8G_3$ (0.03, 0.09, **0.14**), 1.17, 1.23, **1.28,** 1.34, 1.40.
$^6F_3$–$^8G_4$ (**0.03,** 0.08, 0.13), 1.24, 1.29, 1.34, 1.39, 1.44, **1.49.**

TABLE 7.—*Theoretical Zeeman effects (sextet-octet intersystem)*—Continued

$^6F_4$–$^8G_3$ (**0.07**, 0.21, 0.35), 1.05, 1.19, 1.33, 1.46, 1.60, **1.74.**
$^6F_4$–$^8G_4$ (0.02, 0.05, 0.08, **0.11**), 1.29, 1.32, 1.35, **1.38**, 1.41, 1.45, 1.48.
$^6F_4$–$^8G_5$ (**0.01**, 0.03, 0.04, 0.06), 1.35, 1.37, 1.39, 1.40, 1.42, 1.44, 1.46, **1.48.**
$^6F_5$–$^8G_4$ (**0.33**, 0.10, 0.17, 0.24), 1.19, 1.26, 1.33, 1.40, 1.47, 1.54, 1.61, **1.68.**
$^6F_5$–$^8G_5$ (0.01, 0.03, 0.05, 0.07, **0.09**), 1.34, 1.36, 1.38, 1.40, **1.42**, 1.44, 1.46, 1.48, 1.50.
$^6F_5$–$^8G_6$ (**0.00**, 0.01, 0.02, 0.02, 0.03), 1.41, 1.42, 1.43, 1.43, 1.44, 1.44, 1.45, 1.46, 1.46, **1.47.**
$^6F_6$–$^8G_5$ (**0.02**, 0.06, 0.10, 0.14, 0.18), 1.27, 1.31, 1.35, 1.40, 1.44, 1.48, 1.52, 1.56, 1.60, **1.64.**
$^6F_6$–$^8G_6$ (0.01, 0.02, 0.04, 0.05, 0.06, **0.08**), 1.38, 1.39, 1.41, 1.42, 1.43, **1.45**, 1.46, 1.47, 1.49, 1.50, 1.52.
$^6F_6$–$^8G_7$ (**0.00**, 0.00, 0.00, 0.01, 0.01, 0.01), 1.45, 1.45, 1.45, 1.45, 1.45, 1.46, 1.46, 1.46, 1.46, 1.46, 1.47, **1.47.**

TABLE 8.—*Theoretical Zeeman effects (triplet system)*

[Landé g values]

l \ j	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7
S		$\frac{4}{2}$								2.000						
P	$\frac{0}{0}$	$\frac{3}{2}$	$\frac{0}{6}$						$\frac{0}{0}$	1.500	1.500					
D		$\frac{1}{2}$	$\frac{7}{6}$	$\frac{16}{12}$						0.500	1.167	1.333				
F			$\frac{4}{6}$	$\frac{13}{12}$	$\frac{25}{20}$						0.667	1.083	1.250			
G				$\frac{9}{12}$	$\frac{21}{20}$	$\frac{36}{30}$						0.750	1.050	1.200		
H					$\frac{16}{20}$	$\frac{31}{30}$	$\frac{49}{42}$						0.800	1.033	1.167	
I						$\frac{25}{30}$	$\frac{43}{42}$	$\frac{64}{56}$						0.833	1.024	1.143

$^3S_1$–$^3S'_1$ (0.00), 2.00.

$^3S_1$–$^3P_0$ (0.00), 2.00.
$^3S_1$–$^3P_1$ (0.50), 1.50, 2.00.
$^3S_1$–$^3P_2$ (**0.00**, 0.50), **1.00**, 1.50, 2.00.

$^3S_1$–$^3D'_1$ (1.50), 0.50, 2.00.
$^3S_1$–$^3D'_2$ (**0.00**, 0.83), **0.33**, 1.17, 2.00.

$^3S_1$–$^3F_2$ (**0.00**, 1.33), **0.67**, 2.00.

$^3P_0$–$^3P'_1$=$^3P_1$–$^3P'_0$=$^3P_1$–$^3P'_1$=$^3P_1$–$^3P'_2$=$^3P_2$–$^3P'_1$=$^3P_2$–$^3P'_2$ (0.00), **1.50.**

$^3P_0$–$^3D_1$ (0.00), 0.50.
$^3P_1$–$^3D_1$ (1.00), 0.50, 1.50.
$^3P_1$–$^3D_2$ (**0.00**, 0.33), **0.83**, 1.17, 1.50.
$^3P_2$–$^3D_1$ (**0.00**, 1.00), 0.50, 1.50, **2.50.**
$^3P_2$–$^3D_2$ (0.33, **0.67**), 0.83, **1.17**, **1.50**, 1.83.
$^3P_2$–$^3D_3$ (**0.00**, 0.17, 0.33), **1.00**, 1.17, 1.33, 1.50, 1.67.

$^3P_1$–$^3F_2$ (**0.00**, 0.83), **−0.17**, 0.67, 1.50.
$^3P_2$–$^3F_2$ (0.83, **1.67**), −0.17, **0.67**, **1.50**, 2.33.
$^3P_2$–$^3F_3$ (**0.00**, 0.42, 0.83), **0.25**, 0.67, 1.08, 1.50, 1.92.

$^3P_2$–$^3G_3$ (**0.00**, 0.75, 1.50), **−0.75**, 0.00, 0.75, 1.50, 2.25.

$^3D_1$–$^3D'_1$ (0.00), 0.50.
$^3D_1$–$^3D'_2$, $^3D_2$–$^3D'_1$ (**0.00**, 0.67), 0.50, 1.17, **1.83.**
$^3D_2$–$^3D'_2$ (0.00), 1.17.
$^3D_2$–$^3D'_3$, $^3D_3$–$^3D'_2$ (**0.00**, 0.17, 0.33), 1.00, 1.17, 1.33, 1.50, **1.67.**
$^3D_3$–$^3D'_3$ (0.00), 1.33.

$^3D_1$–$^3F_2$ (**0.00**, 0.17), 0.50, 0.67, **0.83.**
$^3D_2$–$^3F_2$ (0.50, **1.00**), 0.17, **0.67**, **1.17**, 1.67.
$^3D_3$–$^3F_2$ (**0.00**, 0.67, 1.33), 0.00, 0.67, 1.33, 2.00, **2.67.**
$^3D_2$–$^3F_3$ (**0.00**, 0.08, 0.17), **0.92**, 1.00, 1.08, 1.17, 1.25.
$^3D_3$–$^3F_3$ (0.25, 0.50, **0.75**), 0.58, 0.83, **1.08**, **1.33**, 1.58, 1.83.
$^3D_3$–$^3F_4$ (**0.00**, 0.08, 0.17, 0.25), **1.00**, 1.08, 1.17, 1.25, 1.33, 1.42. **1.50.**

TABLE 8.—*Theoretical Zeeman effects (triplet system)*—Continued

$^3D_2$–$^3G'_3$ (**0.00,** 0.42, 0.83), **−0.08,** +0.33, 0.75, 1.17, 1.58.
$^3D_3$–$^3G'_3$ (0.58, 1.17, **1.75**), −0.42, +0.17, **0.75, 1.33,** 1.92, 2.50.
$^3D_3$–$^3G'_4$ (**0.00,** 0.28, 0.57, 0.85), **0.20,** 0.48, 0.77, 1.05, 1.33, 1.62, 1.90.

$^3D_3$–$^3H_4$ (**0.00,** 0.53, 1.07, 1.60), **−0.80,** −0.27, +0.27, 0.80, 1.33, 1.87, **2.40.**

$^3F_2$–$^3F'_2$ (0.00), 0.67.
$^3F_2$–$^3F'_3$, $^3F_3$–$^3F'_2$ (**0.00,** 0.42, 0.83), 0.25, 0.67, 1.08, 1.50, **1.92.**
$^3F_3$–$^3F'_3$ (0.00), 1.08.
$^3F_3$–$^3F'_4$, $^3F_4$–$^3F'_3$ (**0.00,** 0.17, 0.33, 0.50), 0.75, 0.92, 1.08, 1.25, 1.42, 1.58, **1.75.**
$^3F_4$–$^3F'_4$ (0.00), 1.25.

$^3F_2$–$^3G_3$ (**0.00,** 0.08, 0.17), 0.58, 0.67, 0.75, 0.83, **0.92.**
$^3F_3$–$^3G_3$ (0.33, 0.67, **1.00**), 0.08, 0.42, **0.75, 1.08,** 1.42, 1.75.
$^3F_3$–$^3G_4$ (**0.00,** 0.03, 0.07, 0.10), **0.95,** 0.98, 1.02, 1.05, 1.08, 1.12, 1.15.
$^3F_4$–$^3G_3$ (**0.00,** 0.50, 1.00, 1.50), −0.25, +0.25, 0.75, 1.25, 1.75, 2.25, **2.75.**
$^3F_4$–$^3G_4$ (0.20, 0.40, 0.60, **0.80**), 0.45, 0.65, 0.85, **1.05, 1.25,** 1.45, 1.65, 1.85.
$^3F_4$–$^3G_5$ (**0.00,** 0.05, 0.10, 0.15, 0.20), **1.00,** 1.05, 1.10, 1.15, 1.20, 1.25, 1.30, 1.35, 1.40.

$^3F_3$–$^3H'_4$ (**0.00,** 0.28, 0.57, 0.85), **−0.05,** +0.23, 0.52, 0.80, 1.08, 1.37, 1.65.
$^3F_4$–$^3H'_4$ (0.45, 0.90, 1.35, **1.80**), −0.55, −0.10, +0.35, **0.80, 1.25,** 1.70, 2.15, 2.60.
$^3F_4$–$^3H'_5$ (**0.00,** 0.22, 0.43, 0.65, 0.87), **0.17,** 0.38, 0.60, 0.82, 1.03, 1.25, 1.47, 1.68, 1.90.

$^3F_4$–$^3I_5$ (**0.00,** 0.42, 0.83, 1.25, 1.67), **−0.83,** −0.42, 0.00, 0.42, 0.83, 1.25, 1.67, 2.08, 2.50.

$^3G_3$–$^3G'_3$ (0.00), 0.75.
$^3G_3$–$^3G'_4$, $^3G_4$–$^3G'_3$ (**0.00,** 0.30, 0.60, 0.90), 0.15, 0.45, 0.75, 1.05, 1.35, 1.65, **1.95.**
$^3G_4$–$^3G'_4$ (0.00), 1.05.
$^3G_4$–$^3G'_5$, $^3G_5$–$^3G'_4$ (**0.00,** 0.15, 0.30, 0.45, 0.60), 0.60, 0.75, 0.90, 1.05, 1.20, 1.35, 1.50, 1.65, **1.80.**
$^3G_5$–$^3G'_5$ (0.00), **1.20.**

$^3G_3$–$^3H_4$ (**0.00,** 0.05, 0.10, 0.15), 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, **0.95.**
$^3G_4$–$^3H_4$ (0.25, 0.50, 0.75, **1.00**), 0.05, 0.30, 0.55, **0.80, 1.05,** 1.30, 1.55, 1.80.
$^3G_5$–$^3H_4$ (**0.00,** 0.40, 0.80, 1.20, 1.60), 0.00, 0.40, 0.80, 1.20, 1.60, 2.00, 2.40, **2.80.**
$^3G_4$–$^3H_5$ (**0.00,** 0.02, 0.03, 0.05, 0.07), **0.97,** 0.98, 1.00, 1.02, 1.03, 1.05, 1.07, 1.08, 1.10.
$^3G_5$–$^3H_5$ (0.17, 0.33, 0.50, 0.67, **0.83**), 0.37, 0.53, 0.70, 0.87, **1.03, 1.20,** 1.37, 1.53, 1.70, 1.87.
$^3G_5$–$^3H_6$ (**0.00,** 0.03, 0.07, 0.10, 0.13, 0.17), **1.00,** 1.03, 1.07, 1.10, 1.13, 1.17, 1.20, 1.23, 1.27, 1.30, **1.33.**

$^3G_4$–$^3I'_5$ (**0.00,** 0.22, 0.43, 0.65, 0.87), **−0.03,** +0.18, 0.40, 0.62, 0.83, 1.05, 1.27, 1.48, 1.70.
$^3G_5$–$^3I'_5$ (0.37, 0.73, 1.10, 1.47, **1.83**), −0.63, −0.27, +0.10, 0.47, **0.83, 1.20,** 1.57, 1.93, 2.30, 2.67.
$^3G_5$–$^3I'_6$ (**0.00,** 0.18, 0.35, 0.53, 0.70, 0.88), **0.14,** 0.32, 0.50, 0.67, 0.85, 1.02, 1.20, 1.38, 1.55, 1.73, 1.90.

$^3H_4$–$^3H'_4$ (0.00), 0.80.
$^3H_4$–$^3H'_5$, $^3H_5$–$^3H'_4$ (**0.00,** 0.23, 0.47, 0.70, 0.93), 0.10, 0.33, 0.57, 0.80, 1.03, 1.27, 1.50, 1.73, **1.97.**
$^3H_5$–$^3H'_5$ (0.00), 1.03.
$^3H_5$–$^3H'_6$, $^3H_6$–$^3H'_5$ (**0.00,** 0.13, 0.27, 0.40, 0.53, 0.67), 0.50, 0.63, 0.77, 0.90, 1.03, 1.17, 1.30, 1.43, 1.57, 1.70, **1.83.**
$^3H_6$–$^3H'_6$ (0.00), 1.17.

$^3H_4$–$^3I_5$ (**0.00,** 0.03, 0.07, 0.10, 0.13), 0.70, 0.73, 0.77, 0.80, 0.83, 0.87, 0.90, 0.93, **0.97.**
$^3H_5$–$^3I_5$ (0.20, 0.40, 0.60, 0.80, **1.00**), 0.03, 0.23, 0.43, 0.63, **0.83, 1.03,** 1.23, 1.43, 1.63, 1.83.
$^3H_5$–$^3I_6$ (**0.00,** 0.01, 0.02, 0.03, 0.04, 0.05), **0.98,** 0.99, 1.00, 1.01, 1.02, 1.03, 1.04, 1.05, 1.06, 1.07.
$^3H_6$–$^3I_5$ (**0.00,** 0.33, 0.67, 1.00, 1.33, 1.67), −0.50, −0.17, +0.17, 0.50, 0.83, 1.17, 1.50, 1.83, 2.17, 2.50, **2.83.**
$^3H_6$–$^3I_6$ (0.14, 0.29, 0.43, 0.57, 0.71, **0.86**), 0.31, 0.45, 0.60, 0.74, 0.88, **1.02, 1.17,** 1.31, 1.45, 1.60, 1.74, 1.88.
$^3H_6$–$^3I_7$ (**0.00,** 0.02, 0.05, 0.07, 0.10, 0.12, 0.14), **1.00,** 1.02, 1.05, 1.07, 1.10, 1.12, 1.14, 1.17, 1.19, 1.21, 1.24, 1.26, 1.29.

$^3I_5$–$^3I'_5$ (0.00), 0.83.
$^3I_5$–$^3I'_6$, $^3I_6$–$^3I'_5$ (**0.00,** 0.19, 0.38, 0.57, 0.76, 0.95), 0.07, 0.26, 0.45, 0.64, 0.83, 1.02, 1.21, 1.40, 1.60, 1.79, **1.98.**
$^3I_6$–$^3I'_6$ (0.00), 1.02.
$^3I_6$–$^3I'_7$, $^3I_7$–$^3I'_6$ (**0.00,** 0.12, 0.24, 0.36, 0.48, 0.60, 0.71), 0.43, 0.55, 0.67, 0.79, 0.90, 1.02, 1.14, 1.26, 1.38, 1.50, 1.62, 1.74, **1.86.**
$^3I_7$–$^3I'_7$ (0.00), 1.14.

TABLE 9.—*Theoretical Zeeman effects (quintet system)*

[Landé g values]

l \ j	0	1	2	3	4	5	6	7	8	0	1	2	3	4	5	6	7	8
S			$\frac{12}{6}$									2.000						
P		$\frac{5}{2}$	$\frac{11}{6}$	$\frac{20}{12}$							2.500	1.833	1.667					
D	$\frac{0}{0}$	$\frac{3}{2}$	$\frac{8}{6}$	$\frac{16}{12}$	$\frac{30}{20}$					$\frac{0}{0}$	1.500	1.500	1.500	1.500				
F		$\frac{0}{2}$	$\frac{6}{6}$	$\frac{18}{12}$	$\frac{27}{20}$	$\frac{42}{30}$					0.000	1.000	1.250	1.350	1.400			
G			$\frac{2}{6}$	$\frac{11}{12}$	$\frac{22}{20}$	$\frac{38}{30}$	$\frac{56}{42}$					0.333	0.917	1.150	1.267	1.333		
H				$\frac{6}{12}$	$\frac{18}{20}$	$\frac{33}{30}$	$\frac{51}{42}$	$\frac{72}{56}$					0.500	0.900	1.100	1.214	1.286	
I					$\frac{12}{20}$	$\frac{27}{30}$	$\frac{45}{42}$	$\frac{66}{56}$	$\frac{90}{72}$					0.600	0.900	1.071	1.179	1.250

TABLE 9.—*Theoretical Zeeman effects (quintet system)*—Continued

$^5S_2$–$^5S'_2$ (0.00), 2.00.

$^5S_2$–$^5P_1$ (**0.00**, 0.50), **1.50**, 2.00, 2.50.
$^5S_2$–$^5P_2$ (0.17, **0.33**), 1.67, **1.83**, **2.00**, 2.17.
$^5S_2$–$^5P_3$ (**0.00**, 0.33, 0.67), **1.00**, 1.33, 1.67, 2.00, 2.33.

$^5S_2$–$^5D'_1$ (**0.00**, 0.50), 1.50, 2.00, **2.50**.
$^5S_2$–$^5D'_2$ (0.50, **1.00**), 1.00, **1.50**, **2.00**, 2.50.
$^5S_2$–$^5D'_3$ (**0.00**, 0.50, 1.00), **0.50**, 1.00, 1.50, 2.00, 2.50.

$^5S_2$–$^5F_1$ (**0.00**, 2.00), 0.00, 2.00, **4.00**.
$^5S_2$–$^5F_2$ (1.00, **2.00**), 0.00, **1.00**, **2.00**, 3.00.
$^5S_2$–$^5F_3$ (**0.00**, 0.75, 1.50), **−0.25**, +0.50, 1.25, 2.00, 2.75.

$^5P_1$–$^5P'_1$ (0.00), 2.50.
$^5P_1$–$^5P'_2$, $^5P_2$–$^5P'_1$ (**0.00**, 0.67,) **1.17**, 1.83, 2.50.
$^5P_2$–$^5P'_2$ (0.00), 1.83.
$^5P_2$–$^5P'_3$, $^5P_3$–$^5P'_2$ (**0.00**, 0.17, 0.33), **1.33**, 1.50, 1.67, 1.83, 2.00.
$^5P_3$–$^5P'_3$ (0.00), 1.67.

$^5P_1$–$^5D_0$ (0.00), 2.50.
$^5P_1$–$^5D_1$ (1.00), 1.50, 2.50.
$^5P_1$–$^5D_2$ (**0.00**, 1.00), **0.50**, 1.50, 2.50.
$^5P_2$–$^5D_1$ (**0.00**, 0.33), 1.50, 1.83, **2.17**.
$^5P_2$–$^5D_2$ (0.33, **0.67**), 1.17, **1.50**, **1.83**, 2.17.
$^5P_2$–$^5D_3$ (**0.00**, 0.33, 0.67), **0.83**, 1.17, 1.50, 1.83, 2.17.
$^5P_3$–$^5D_2$ (**0.00**, 0.17, 0.33), 1.33, 1.50, 1.67, 1.83, **2.00**.
$^5P_3$–$^5D_3$ (0.17, 0.33, **0.50**), 1.17, 1.33, **1.50**, **1.67**, 1.83, 2.00.
$^5P_3$–$^5D_4$ (**0.00**, 0.17, 0.33, 0.50), **1.00**, 1.17, 1.33, 1.50, 1.67, 1.83, 2.00.

$^5P_1$–$^5F'_1$ (2.50), 0.00, 2.50.
$^5P_1$–$^5F'_2$ (**0.00**, 1.50), **−0.50**, +1.00, 2.50.
$^5P_2$–$^5F'_1$ (**0.00**, 1.83), 0.00, 1.83, **3.67**.
$^5P_2$–$^5F'_2$ (0.83, **1.67**), 0.17, **1.00**, **1.83**, 2.67.
$^5P_2$–$^5F'_3$ (**0.00**, 0.58, 1.17), **0.08**, 0.67, 1.25, 1.83, 2.42.
$^5P_3$–$^5F'_2$ (**0.00**, 0.67, 1.33), 0.33, 1.00, 1.67, 2.33, **3.00**.
$^5P_3$–$^5F'_3$ (0.42, 0.83, **1.25**), 0.42, 0.83, **1.25**, **1.67**, 2.08, 2.50.
$^5P_3$–$^5F'_4$ (**0.00**, 0.32, 0.63, 0.95), **0.40**, 0.72, 1.03, 1.35, 1.67, 1.98, 2.30.

$^5P_1$–$^5G_2$ (**0.00**, 2.17), **−1.83**, +0.33, 2.50.
$^5P_2$–$^5G_2$ (1.50, **3.00**), −1.17, **+0.33**, **1.83**, 3.33.
$^5P_2$–$^5G_3$ (**0.00**, 0.92, 1.83), **−0.92**, 0.00, 0.92, 1.83, 2.75.
$^5P_3$–$^5G_2$ (**0.00**, 1.33, 2.67), −1.00, +0.33, 1.67, 3.00, **4.33**.
$^5P_3$–$^5G_3$ (0.75, 1.50, **2.25**), −0.58, +0.17, **0.92**, **1.67**, 2.42, 3.17.
$^5P_3$–$^5G_4$ (**0.00**, 0.52, 1.03, 1.55), **−0.40**, +0.12, 0.63, 1.15, 1.67, 2.18, 2.70.

$^5D_1$–$^5D'_0$=$^5D_1$–$^5D'_1$=$^5D_1$–$^5D'_2$=...=$^5D_4$–$^5D'_4$ (0.00), 1.50.

$^5D_0$–$^5F_1$ (0.00), 0.00, unaffected.
$^5D_1$–$^5F_1$ (1.50), 0.00, 1.50.
$^5D_1$–$^5F_2$ (**0.00**, 0.50), **0.50**, 1.00, 1.50.
$^5D_2$–$^5F_1$ (**0.00**, 1.50), 0.00, 1.50, **2.00**.
$^5D_2$–$^5F_2$ (0.50, **1.00**), 0.50, **1.00**, **1.50**, 2.00.
$^5D_2$–$^5F_3$ (**0.00**, 0.25, 0.50), **0.75**, 1.00, 1.25, 1.50, 1.75.
$^5D_3$–$^5F_2$ (**0.00**, 0.50, 1.00), 0.50, 1.00, 1.50, 2.00, **2.50**.
$^5D_3$–$^5F_3$ (0.25, 0.50, **0.75**), 0.75, 1.00, **1.25**, **1.50**, 1.75, 2.00.
$^5D_3$–$^5F_4$ (**0.00**, 0.15, 0.30, 0.45), **0.90**, 1.05, 1.20, 1.35, 1.50, 1.65, 1.80.
$^5D_4$–$^5F_3$ (**0.00**, 0.25, 0.50, 0.75), 0.75, 1.00, 1.25, 1.50, 1.75, 2.00, **2.25**.
$^5D_4$–$^5F_4$ (0.15, 0.30, 0.45, **0.60**), 0.90, 1.05, 1.20, **1.35**, **1.50**, 1.65, 1.80, 1.95.
$^5D_4$–$^5F_5$ (**0.00**, 0.10, 0.20, 0.30, 0.40), **1.00**, 1.10, 1.20, 1.30, 1.40, 1.50, 1.60, 1.70, 1.80.

$^5D_1$–$^5G'_2$ (**0.00**, 1.17), **−0.83**, +0.33, 1.50.
$^5D_2$–$^5G'_2$ (1.17, **2.33**), −0.83, **+0.33**, **1.50**, 2.67.
$^5D_2$–$^5G'_3$ (**0.00**, 0.58, 1.17), **−0.25**, +0.33, 0.92, 1.50, 2.08.
$^5D_3$–$^5G'_2$ (**0.00**, 1.17, 2.33), −0.83, +0.33, 1.50, 2.67, **3.83**.
$^5D_3$–$^5G'_3$ (0.58, 1.17, **1.75**), −0.25, +0.33, **0.92**, **1.50**, 2.08, 2.67.
$^5D_3$–$^5G'_4$ (**0.00**, 0.35, 0.70, 1.05), **0.10**, 0.45, 0.80, 1.15, 1.50, 1.85, 2.20.
$^5D_4$–$^5G'_3$ (**0.00**, 0.58, 1.17, 1.75), −0.25, +0.33, 0.92, 1.50, 2.08, 2.67, **3.25**.
$^5D_4$–$^5G'_4$ (0.35, 0.70, 1.05, **1.40**), 0.10, 0.45, 0.80, **1.15**, **1.50**, 1.85, 2.20, 2.55.
$^5D_4$–$^5G'_5$ (**0.00**, 0.23, 0.47, 0.70, 0.93), **0.33**, 0.57, 0.80, 1.03, 1.27, 1.50, 1.73, 1.97, 2.20.

TABLE 9.—*Theoretical Zeeman effects (quintet system)*—Continued

$^5D_2$–$^5H_3$ (**0.00**, 1.00, 2.00), **−1.50**, −0.50, +0.50, 1.50, 2.50.
$^5D_3$–$^5H_3$ (1.00, 2.00, **3.00**), −1.50, −0.50, +**0.50**, +**1.50**, 2.50, 3.50.
$^5D_3$–$^5H_4$ (**0.00**, 0.60, 1.20, 1.80,), −**0.90**, −0.30, +0.30, 0.90, 1.50, 2.10, 2.70.
$^5D_4$–$^5H_3$ (**0.00**, 1.00, 2.00, 3.00), −1.50, −0.50, +0.50, 1.50, 2.50, 3.50, **4.50**.
$^5D_4$–$^5H_4$ (0.60, 1.20, 1.80, **2.40**), −0.90, −0.30, +0.30, **0.90**, **1.50**, 2.10, 2.70, 3.30.
$^5D_4$–$^5H_5$ (**0.00**, 0.40, 0.80, 1.20, 1.60), −**0.50**, −0.10, +0.30, 0.70, 1.10, 1.50, 1.90, 2.30, 2.70.

$^5F_1$–$^5F'_1$ (0.00), 0.00 unaffected.
$^5F_1$–$^5F'_2$, $^5F_2$–$^5F'_1$ (**0.00**, 1.00) 0.00, 1.00, **2.00**.
$^5F_2$–$^5F'_2$ (0.00), 1.00.
$^5F_2$–$^5F'_3$, $^5F_3$–$^5F'_2$ (**0.00**, 0.25, 0.50), 0.75, 1.00, 1.25, 1.50, **1.75**.
$^5F_3$–$^5F'_3$ (0.00), 1.25.
$^5F_3$–$^5F'_4$, $^5F_4$–$^5F'_3$ (**0.00**, 0.10, 0.20, 0.30), 1.05, 1.15, 1.25, 1.35, 1.45, 1.55, **1.65**.
$^5F_4$–$^5F'_4$ (0.00), 1.35.
$^5F_4$–$^5F'_5$, $^5F_5$–$^5F'_4$ (**0.00**, 0.05, 0.10, 0.15, 0.20), 1.20, 1.25, 1.30, 1.35, 1.40, 1.45, 1.50, 1.55, **1.60**.
$^5F_5$–$^5F'_5$ (0.00), 1.40.

$^5F_1$–$^5G_2$ (**0.00**, 0.33), 0.00, 0.33, **0.67**.
$^5F_2$–$^5G_2$ (0.67, **1.33**), 0.33, **1.00**, 1.67.
$^5F_2$–$^5G_3$ (**0.00**, 0.08, 0.17), **0.75**, 0. 83, 0. 92, 1.00, 1.08.
$^5F_3$–$^5G_2$ (**0.00**, 0.92, 1.83), −0.58, +0.33, 1.25, 2.17, **3.08**.
$^5F_3$–$^5G_3$ (0.33, 0.67, **1.00**), 0.25, 0.58, **0.92**, **1.25**, 1.58, 1.92.
$^5F_3$–$^5G_4$ (**0.00**, 0.10, 0.20, 0.30), **0.85**, 0.95, 1.05, 1.15, 1.25, 1.35, 1.45.
$^5F_4$–$^5G_3$ (**0.00**, 0.43, 0.87, 1.30), 0.05, 0.48, 0.92, 1.35, 1.78, 2.22, **2.65**.
$^5F_4$–$^5G_4$ (0.20, 0.40, 0.60, **0.80**), 0.55, 0.75, 0.95, **1.15**, **1.35**, 1.55, 1.75, 1.95.
$^5F_4$–$^5G_5$ (**0.00**, 0.08, 0.17, 0.25, 0.33). **0.93**, 1.02, 1.10, 1.18, 1.27, 1.35, 1.43, 1.52, 1.60.
$^5F_5$–$^5G_4$ (**0.00**, 0.25, 0.50, 0.75, 1.00), 0.40, 0.65, 0.90, 1.15, 1.40, 1.65, 1.90, 2.15, **2.40**.
$^5F_5$–$^5G_5$ (0.13, 0.27, 0.40, 0.53, **0.67**), 0.73, 0.87, 1.00, 1.13, **1.27**, **1.40**, 1.53, 1.67, 1.80, 1.93.
$^5F_5$–$^5G_6$ (**0.00**, 0.07, 0.13, 0.20, 0.27, 0.33), **1.00**, 1.07, 1.13, 1.20, 1.27, 1.33, 1.40, 1.47, 1.53, 1.60, 1.67.

$^5F_2$–$^5H'_3$ (**0.00**, 0.50, 1.00), −**0.50**, 0.00, 0.50, 1.00, 1.50.
$^5F_3$–$^5H'_3$ (0.75, 1.50, **2.25**), −1.00, −0.25, +**0.50**, **1.25**, 2.00, 2.75.
$^5F_3$–$^5H'_4$ (**0.00**, 0.35, 0.70, 1.05), −**0.15**, +0.20, 0.55, 0.90, 1.25, 1.60, 1.95.
$^5F_4$–$^5H'_3$ (**0.00**, 0.85, 1.70, 2.55), −1.20, −0.35, +0.50, 1.35, 2.20, 3.05, **3.90**.
$^5F_4$–$^5H'_4$ (0.45, 0.90, 1.35, **1.80**), −0.45, 0.00, 0.45, **0.90**, **1.35**, 1.80, 2.25, 2.70.
$^5F_4$–$^5H'_5$ (**0.00**, 0.25, 0.50, 0.75, 1.00), **0.10**, 0.35, 0.60, 0.85, 1.10, 1.35, 1.60, 1.85, 2.10.
$^5F_5$–$^5H'_4$ (**0.00**, 0.50, 1.00, 1.50, 2.00), −0.60, −0.10, +0.40, 0.90, 1.40, 1.90, 2.40, 2.90, **3.40**.
$^5F_5$–$^5H'_5$ (0.30, 0.60, 0.90, 1.20, **1.50**), −0.10, +0.20, 0.50, 0.80, **1.10**, **1.40**, 1.70, 2.00, 2.30, 2.60.
$^5F_5$–$^5H'_6$ (**0.00**, 0.19, 0.37, 0.56, 0.74, 0.93), **0.29**, 0.47, 0.66, 0.84, 1.03, 1.21, 1.40, 1.59, 1.77, 1.96, **2.14**.

$^5G_2$–$^5G'_2$ (0.00), 0.33.
$^5G_2$–$^5G'_3$, $^5G_3$–$^5G'_2$ (**0.00**, 0.58, 1.17), −0.25,+0.33, 0.92, 1.50, **2.08**.
$^5G_3$–$^5G'_3$ (0.00), 0.92.
$^5G_3$–$^5G'_4$, $^5G_4$–$^5G'_3$ (**0.00**, 0.23, 0.47, 0.70), 0.45, 0.68, 0.92, 1.15, 1.38, 1.62. **1.85**.
$^5G_4$–$^5G'_4$ (0.00), 1.15.
$^5G_4$–$^5G'_5$, $^5G_5$–$^5G'_4$ (**0.00**, 0.12, 0.23, 0.35, 0.47), 0.80, 0.92, 1.03, 1.15, 1.27, 1.38, 1.50, 1.62, **1.73**.
$^5G_5$–$^5G'_5$ (0.00), 1.27.
$^5G_5$–$^5G'_6$, $^5G_6$–$^5G'_5$ (**0.00**, 0.07, 0.13, 0.20, 0.27, 0.33), 1.00, 1.07, 1.13, 1.20, 1.27, 1.33, 1.40, 1.47, 1.53, 1.60, **1.67**.
$^5G_6$–$^5G'_6$ (0.00), 1.33.

$^5G_2$–$^5H_3$ (**0.00**, 0.17, 0.33), 0.17, 0.33, 0.50, 0.67, **0.83**.
$^5G_3$–$^5H_3$ (0.42, 0.83, **1.25**), −0.33, +0.08, **0.50**, **0.92**, 1.33, 1.75.
$^5G_3$–$^5H_4$ (**0.00**, 0.02, 0.03, 0.05), **0.85**. 0.87, 0.88, 0.90, 0.92, 0.93, 0.95.
$^5G_4$–$^5H_3$ (**0.00**, 0.65, 1.30, 1.95), −0.80, −0.15, +0.50, 1.15, 1.80, 2.45, **3.10**.
$^5G_4$–$^5H_4$ (0.25, 0.50, 0.75, **1.00**), 0.15, 0.40, 0.65, **0.90**, **1.15**, 1.40, 1.65, 1.90.
$^5G_4$–$^5H_5$ (**0.00**, 0.05, 0.10, 0.15, 0.20), **0.90**, 0.95, 1.00, 1.05, 1.10, 1.15, 1.20, 1.25, 1.30.
$^5G_5$–$^5H_4$ (**0.00**, 0.37, 0.73, 1.10, 1.47), −0.20, +0.17, 0.53, 0.90, 1.27, 1.63, 2.00, 2.37, **2.73**.
$^5G_5$–$^5H_5$ (0.17, 0.33, 0.50, 0.67, **0.83**), 0.43, 0.60, 0.77, 0.93, **1.10**, **1.27**, 1.43, 1.60, 1.77, 1.93.
$^5G_5$–$^5H_6$ (**0.00**, 0.05, 0.10, 0.16, 0.21, 0.26), **0.95**, 1.00, 1.06, 1.11, 1.16, 1.21, 1.27, 1.32, 1.37, 1.42, 1.48.
$^5G_6$–$^5H_5$ (**0.00**, 0.23, 0.47, 0.70, 0.93, 1.17), 0.17, 0.40, 0.63, 0.87, 1.10, 1.33, 1.57, 1.80, 2.03, 2.27, **2.50**.
$^5G_6$–$^5H_6$ (0.12, 0.24, 0.36, 0.48, 0.60, **0.71**), 0.62, 0.74, 0.86, 0.98, 1.10, **1.22**, **1.33**, 1.45, 1.57, 1.69, 1.81, 1.93.
$^5G_6$–$^5H_7$ (**0.00**, 0.05, 0.10, 0.14, 0.19, 0.24, 0.29), **1.00**, 1.05, 1.10, 1.14, 1.19, 1.24, 1.29, 1.33, 1.38, 1.43, 1.48, 1.52, 1.57.

TABLE 9.—*Theoretical Zeeman effects (quintet system)*—Continued

$^5G_3$–$^5I'_4$ (**0.00**, 0.32, 0.63, 0.95), **−0.35**, −0.03, +0.28, 0.60, 0.92, 1.23, 1.55.

$^5G_4$–$^5I'_4$ (0.55, 1.10, 1.65, **2.20**), −1.05, −0.50, +0.05, **0.60, 1.15**, 1.70, 2.25, 2.80.

$^5G_4$–$^5I'_5$ (**0.00**, 0.25, 0.50, 0.75, 1.00), **−0.10**, +0.15, 0.40, 0.65, 0.90, 1.15, 1.40, 1.65, 1.90.

$^5G_5$–$^5I'_4$ (**0.00**, 0.67, 1.33, 2.00, 2.67), −1.40, −0.73, −0.07, +0.60, 1.27, 1.93, 2.60, 3.27, **3.93.**

$^5G_5$–$^5I'_5$ (0.37, 0.73, 1.10, 1.47, **1.83**), −0.57, −0.20, +0.17, 0.53, **0.90, 1.27**, 1.63, 2.00, 2.37, 2.73.

$^5G_5$–$^5I'_6$ (**0.00**, 0.20, 0.39, 0.59, 0.78, 0.98), **0.10**, 0.29, 0.49, 0.68, 0.88, 1.07, 1.27, 1.46, 1.66, 1.85, 2.05.

$^5G_6$–$^5I'_5$ (**0.00**, 0.43, 0.87, 1.30, 1.73, 2.17), −0.83, −0.40, +0.03, 0.47, 0.90, 1.33, 1.77, 2.20, 2.63, 3.07, **3.50.**

$^5G_6$–$^5I'_6$ (0.26, 0.52, 0.79, 1.05, 1.31, **1.57**), −0.24, +0.02, 0.29, 0.55, 0.81, **1.07, 1.33**, 1.60, 1.86, 2.12, 2.38, 2.64.

$^5G_6$–$^5I'_7$ (**0.00**, 0.15, 0.31, 0.46, 0.62, 0.77, 0.93), **0.25**, 0.40, 0.56, 0.71, 0.87, 1.02, 1.18, 1.33, 1.49, 1.64, 1.80, 1.95, 2.11.

$^5H_3$–$^5H'_3$ (0.00), 0.50.

$^5H_3$–$^5H'_4$, $^5H_4$–$^5H'_3$ (**0.00**, 0.40, 0.80, 1.20), −0.30, +0.10, 0.50, 0.90, 1.30, 1.70, **2.10.**

$^5H_4$–$^5H'_4$ (0.00), 0.90.

$^5H_4$–$^5H'_5$, $^5H_5$–$^5H'_4$ (**0.00**, 0,20, 0.40, 0.60, 0.80), 0.30, 0.50, 0.70, 0.90, 1.10, 1.30, 1.50, 1.70, **1.90.**

$^5H_5$–$^5H'_5$ (0.00), 1.10.

$^5H_5$–$^5H'_6$, $^5H_6$–$^5H'_5$ (**0.00**, 0.11, 0.23, 0.34, 0.46, 0.57), 0.64, 0.76, 0.87, 0.99, 1.10, 1.21, 1.33, 1.44, 1.56, 1.67, **1.79.**

$^5H_6$–$^5H'_6$ (0.00), 1.21.

$^5H_6$–$^5H'_7$, $^5H_7$–$^5H'_6$ (**0.00**, 0.07, 0.14, 0.21, 0.29, 0.36, 0.43), 0.86, 0.93, 1.00, 1.07, 1.14, 1.21, 1.29, 1.36, 1.43, 1.50, 1.57, 1.64, **1.71.**

$^5H_7$–$^5H'_7$ (0.00), 1.29.

$^5H_3$–$^5I_4$ (**0.00**, 0.10, 0.20, 0.30), 0.30, 0.40, 0.50, 0.60, 0.70, 0.80, **0.90.**

$^5H_4$–$^5I_4$ (0.30, 0.60, 0.90, **1.20**), −0.30, 0.00, 0.30, **0.60, 0.90**, 1.20, 1.50, 1.80.

$^5H_4$–$^5I_5$ (0.00), 0.90.

$^5H_5$–$^5I_4$ (**0.00**, 0.50, 1.00, 1.50, 2.00), −0.90, −0.40, +0.10, 0.60, 1.10, 1.60, 2.10, 2.60, **3.10.**

$^5H_5$–$^5I_5$ (0.20, 0.40, 0.60, 0.80, **1.00**), 0.10, 0.30, 0.50, 0.70, **0.90, 1.10**, 1.30, 1.50, 1.70, 1.90.

$^5H_5$–$^5I_6$ (**0.00**, 0.03, 0.06, 0.09, 0.11, 0.14), **0.93**, 0.96, 0.99, 1.01, 1.04, 1.07, 1.10, 1.13, 1.16, 1.19, 1.21.

$^5H_6$–$^5I_5$ (**0.00**, 0.31, 0.63, 0.94, 1.26, 1.57), −0.36, −0.04, +0.27, 0.59, 0.90, 1.21, 1.53, 1.86, 2.16, 2.47, **2.79.**

$^5H_6$–$^5I_6$ (0.14, 0.29, 0.43, 0.57, 0.71, **0.86**), 0.36, 0.50, 0.64, 0.79, 0.93, **1.07, 1.21**, 1.36, 1.50, 1.64, 1.79, 1.93.

$^5H_6$–$^5I_7$ (**0.00**, 0.04, 0.07, 0.11, 0.14, 0.18, 0.21), **0.96**, 1.00, 1.04, 1.11, 1.14, 1.18, 1.21, 1.25, 1.29, 1.32, 1.36, 1.39.

$^5H_7$–$^5I_6$ (**0.00**, 0.21, 0.43, 0.64, 0.86, 1.07, 1.29), 0.00, 0.21, 0.43, 0.64, 0.86, 1.07, 1.29, 1.50, 1.71, 1.93, 2.14, 2.36, **2.57.**

$^5H_7$–$^5I_7$ (0.11, 0.21, 0.32, 0.43, 0.54, 0.64, **0.75**), 0.54, 0.64, 0.75, 0.86, 0.96, 1.07, **1.18, 1.29**, 1.39, 1.50, 1.61, 1.71, 1.82, 1.93.

$^5H_7$–$^5I_8$ (**0.00**, 0.04, 0.07, 0.11, 0.14, 0.18, 0.21, 0.25), **1.00**, 1.04, 1.07, 1.11, 1.14, 1.18, 1.21, 1.25, 1.29, 1.32, 1.36, 1.39, 1.43, 1.46, 1.50.

$^5I_4$–$^5I'_4$ (0.00), 0.60.

$^5I_4$–$^5I'_5$, $^5I_5$–$^5I'_4$ (**0.00**, 0.30, 0.60, 0.90, 1.20), −0.30, 0.00, 0.30, 0.60, 0.90, 1.20, 1.50, 1.80, **2.10.**

$^5I_5$–$^5I'_5$ (0.00), 0.90.

$^5I_5$–$^5I'_6$, $^5I_6$–$^5I'_5$ (**0.00**, 0.17, 0.34, 0.51, 0.69, 0.86), 0.21, 0.39, 0.56, 0.73, 0.90, 1.07, 1.24, 1.41, 1.58, 1.76, **1.93.**

$^5I_6$–$^5I'_6$ (0.00), 1.07.

$^5I_6$–$^5I'_7$, $^5I_7$–$^5I'_6$ (**0.00**, 0.11, 0.21, 0.32, 0.43, 0.54, 0.64), 0.54, 0.64, 0.75, 0.86, 0.96, 1.07, 1.18, 1.29, 1.39, 1.50, 1.61, 1.71, **1.82.**

$^5I_7$–$^5I'_7$ (0.00), 1.18.

$^5I_7$–$^5I'_8$, $^5I_8$–$^5I'_7$ (**0.00**, 0.07, 0.14, 0.21, 0.36, 0.43, 0.50), 0.75, 0.82, 0.89, 0.96, 1.04, 1.11, 1.18, 1.25, 1.32, 1.39, 1.47, 1.54, 1.61, 1.68, **1.75.**

$^5I_8$–$^5I'_8$ (0.00), 1.25.

TABLE 10.—*Theoretical Zeeman effects (septet system)*

[Landé g values]

l \ j	0	1	2	3	4	5	6	7	8	9
S				$\frac{24}{12}$						
P			$\frac{14}{8}$	$\frac{23}{12}$	$\frac{33}{20}$					
D		$\frac{6}{2}$	$\frac{13}{8}$	$\frac{21}{12}$	$\frac{33}{20}$	$\frac{48}{30}$				
F	$\frac{0}{0}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{13}{12}$	$\frac{19}{20}$	$\frac{45}{30}$	$\frac{33}{42}$			
G		$-\frac{1}{2}$	$\frac{5}{8}$	$\frac{14}{12}$	$\frac{28}{20}$	$\frac{41}{30}$	$\frac{49}{42}$	$\frac{39}{56}$		
H			$\frac{9}{8}$	$\frac{9}{12}$	$\frac{21}{20}$	$\frac{38}{30}$	$\frac{54}{42}$	$\frac{75}{56}$	$\frac{99}{72}$	
I				$\frac{3}{12}$	$\frac{15}{20}$	$\frac{39}{30}$	$\frac{63}{42}$	$\frac{93}{56}$	$\frac{123}{72}$	$\frac{120}{90}$

l \ j	0	1	2	3	4	5	6	7	8	9
S				2.000						
P			2.333	1.917	1.750					
D		3.000	2.000	1.750	1.650	1.600				
F	$\frac{0}{0}$	1.500	1.500	1.500	1.500	1.500	1.500			
G		−0.500	0.833	1.167	1.300	1.367	1.405	1.429		
H			0.000	0.750	1.050	1.200	1.286	1.339	1.375	
I				0.250	0.750	1.000	1.143	1.232	1.292	1.333

TABLE 10.—*Theoretical Zeeman effects (septet system)*—Continued

$^7S_3$–$^7S'_3$ (0.00), 2.00.

$^7S_3$–$^7P_2$ (**0.00**, 0.33, 0.67), **1.33**, 1.67, 2.00, 2.33, 2.67.
$^7S_3$–$^7P_3$ (0.08, 0.17, **0.25**), 1.75, 1.83, **1.92**, **2.00**, 2.08, 2.17.
$^7S_3$–$^7P_4$ (**0.00**, 0.25, 0.50, 0.75), **1.00**, 1.25, 1.50, 1.75, 2.00, 2.25, 2.50.

$^7S_3$–$^7D'_2$ (0.00), 2.00.
$^7S_3$–$^7D'_3$ (0.25, 0.50, **0.75**), 1.25, 1.50, **1.75**, **2.00**, 2.25, 2.50.
$^7S_3$–$^7D'_4$ (**0.00**, 0.35, 0.70, 1.05), **0.60**, 0.95, 1.30, 1.65, 2.00, 2.35, **2.70**.

$^7P_2$–$^7P'_2$ (0.00), 2.33.
$^7P_2$–$^7P'_3$, $^7P_3$–$^7P'_2$ (**0.00**, 0.42, 0.83), **1.08**, 1.50, 1.92, 2.33, 2.75.
$^7P_3$–$^7P'_3$ (0.00), 1.92.
$^7P_3$–$^7P'_4$, $^7P_4$–$^7P'_3$ (**0.00**, 0.17, 0.33, 0.50), **1.25**, 1.42, 1.58, 1.75, 1.92, 2.08, **2.25**.
$^7P_4$–$^7P'_4$ (0.00), 1.75.

$^7P_2$–$^7D_1$ (**0.00**, 0.67), **1.67**, 2.33, 3.00.
$^7P_2$–$^7D_2$ (0.33, **0.67**), 1.67, **2.00**, **2.33**, 2.67.
$^7P_2$–$^7D_3$ (**0.00**, 0.58, 1.17), **0.58**, 1.17, 1.75, 2.33, 2.92.
$^7P_3$–$^7D_2$ (**0.00**, 0.08, 0.17), **1.75**, 1.83, 1.92, 2.00, 2.08.
$^7P_3$–$^7D_3$ (0.17, 0.33, **0.50**), 1.42, 1.58, **1.75**, **1.92**, 2.08, 2.25.
$^7P_3$–$^7D_4$ (**0.00**, 0.27, 0.53, 0.80), **0.85**, 1.12, 1.38, 1.65, 1.92, 2.18, **2.45**.
$^7P_4$–$^7D_3$ (0.00), 1.75.
$^7P_4$–$^7D_4$ (0.10, 0.20, 0.30, **0.40**), 1.35, 1.45, 1.55, **1.65**, **1.75**, 1.85, 1.95, 2.05.
$^7P_4$–$^7D_5$ (**0.00**, 0.15, 0.30, 0.45, 0.60), **1.00**, 1.15, 1.30, 1.45, 1.60, 1.75, 1.90, 2.05, **2.20**.

$^7P_2$–$^7F'_1$ (**0.00**, 0.83), 1.50, 2.33, **3.17**.
$^7P_2$–$^7F'_2$ (0.83, **1.67**), 0.67, **1.50**, **2.33**, 3.17.
$^7P_2$–$^7F'_3$ (**0.00**, 0.83, 1.67), **−0.17**, +0.67, 1.50, 2.33, 3.17.
$^7P_3$–$^7F'_2$ (**0.00**, 0.42, 0.83), 1.08, 1.50, 1.92, 2.33, **2.75**.
$^7P_3$–$^7F'_3$ (0.42, 0.83, **1.25**), 0.67, 1.08, **1.50**, **1.92**, 2.33, 2.75.
$^7P_3$–$^7F'_4$ (**0.00**, 0.42, 0.83, 1.25), **0.25**, 0.67, 1.08, 1.50, 1.92, 2.33, 2.75.
$^7P_4$–$^7F'_3$ (**0.00**, 0.25, 0.50, 0.75), 1.00, 1.25, 1.50, 1.75, 2.00, 2.25, **2.50**.
$^7P_4$–$^7F'_4$ (0.25, 0.50, 0.75, **1.00**), 0.75, 1.00, 1.25, **1.50**, **1.75**, 2.00, 2.25, 2.50.
$^7P_4$–$^7F'_5$ (**0.00**, 0.25, 0.50, 0.75, 1.00), **0.50**, 0.75, 1.00, 1.25, 1.50, 1.75, **2.00**, 2.25, 2.50.

$^7D_1$–$^7D'_1$ (0.00), 3.00.
$^7D_1$–$^7D'_2$, $^7D_2$–$^7D'_1$ (**0.00**, 1.00), **1.00**, 2.00, 3.00.
$^7D_2$–$^7D'_2$ (0.00), 2.00.
$^7D_2$–$^7D'_3$, $^7D_3$–$^7D'_2$ (**0.00**, 0.25, 0.50), **1.25**, 1.50, 1.75, 2.00, 2.25.
$^7D_3$–$^7D'_3$ (0.00), 1.75.
$^7D_3$–$^7D'_4$, $^7D_4$–$^7D'_3$ (**0.00**, 0.10, 0.20, 0.30), **1.35**, 1.45, 1.55, 1.65, 1.75, 1.85, 1.95.
$^7D_4$–$^7D_4$ (0.00), 1.65.
$^7D_4$–$^7D'_5$, $^7D_5$–$^7D'_4$ (**0.00**, 0.05, 0.10, 0.15, 0.20), **1.40**, 1.45, 1.50, 1.55, 1.60, 1.65, 1.70, 1.75, 1.80.
$^7D_5$–$^7D'_5$ (0.00), 1.60.

$^7D_1$–$^7F_0$ (0.00), 3.00.
$^7D_1$–$^7F_1$ (1.50), 1.50, 3.00.
$^7D_1$–$^7F_2$ (**0.00**, 1.50), **0.00**, 1.50, 3.00.
$^7D_2$–$^7F_1$ (**0.00**, 0.50), 1.50, 2.00, **2.50**.
$^7D_2$–$^7F_2$ (0.50, **1.00**), 1.00, **1.50**, **2.00**, 2.50.
$^7D_2$–$^7F_3$ (**0.00**, 0.50, 1.00), **0.50**, 1.00, 1.50, 2.00, 2.50.
$^7D_3$–$^7F_2$ (**0.00**, 0.25, 0.50), 1.25, 1.50, 1.75, 2.00, **2.25**.
$^7D_3$–$^7F_3$ (0.25, 0.50, **0.75**), 1.00, 1.25, **1.50**, **1.75**, 2.00, 2.25.
$^7D_3$–$^7F_4$ (**0.00**, 0.25, 0.50, 0.75), **0.75**, 1.00, 1.25, 1.50, 1.75, 2.00, 2.25.
$^7D_4$–$^7F_3$ (**0.00**, 0.15, 0.30, 0.45), 1.20, 1.35, 1.50, 1.65, 1.80, 1.95, **2.10**.
$^7D_4$–$^7F_4$ (0.15, 0.30, 0.45, **0.60**), 1.05, 1.20, 1.35, **1.50**, **1.65**, 1.80, 1.95, 2.10.
$^7D_4$–$^7F_5$ (**0.00**, 0.15, 0.30, 0.45, 0.60), **0.90**, 1.05, 1.20, 1.35, 1.50, 1.65, 1.80, 1.95, 2.10.
$^7D_5$–$^7F_4$ (**0.00**, 0.10, 0.20, 0.30, 0.40), 1.20, 1.30, 1.40, 1.50, 1.60, 1.70, 1.80, 1.90, **2.00**.
$^7D_5$–$^7F_5$ (0.10, 0.20, 0.30, 0.40, **0.50**), 1.10, 1.20, 1.30, 1.40, **1.50**, **1.60**, 1.70, 1.80, 1.90, 2.00.
$^7D_5$–$^7F_6$ (**0.00**, 0.10, 0.20, 0.30, 0.40, 0.50), **1.00**, 1.10, 1.20, 1.30, 1.40, 1.50, 1.60, 1.70, 1.80, 1.90, 2.00.

TABLE 10.—*Theoretical Zeeman effects (septet system)*—Continued

$^7D_1$–$^7G'_1$ (3.50), −0.50, 3.00.
$^7D_1$–$^7G'_2$ (**0.00**, 2.17), **−1.33**, +0.83, 3.00.
$^7D_2$–$^7G'_1$ (**0.00**, 2.50), 0.50, 2.00, **4.50**.
$^7D_2$–$^7G'_2$ (1.17, **2.33**), 0.33, **0.83**, **2.00**, 3.17.
$^7D_2$–$^7G'_3$ (**0.00**, 0.83, 1.67), **−0.50**, +0.33, 1.17, 2.00, 2.83.
$^7D_3$–$^7G'_2$ (**0.00**, 0.92, 1.83), 0.08, 0.83, 1.75, 2.67, **3.58**.
$^7D_3$–$^7G'_3$ (0.58, 1.17, **1.75**), 0.00, 0.58, **1.17**, **1.75**, 2.33, 2.92.
$^7D_3$–$^7G'_4$ (**0.00**, 0.45, 0.90, 1.35), **0.05**, 0.40, 0.85, 1.30, 1.75, 2.20, 2.65.
$^7D_4$–$^7G'_3$ (**0.00**, 0.48, 0.97, 1.45), 0.20, 0.68, 1.17, 1.65, 2.13, 2.62, **3.10**.
$^7D_4$–$^7G'_4$ (0.35, 0.70, 1.05, **1.40**), 0.25, 0.60, 0.95, **1.30**, **1.65**, 2.00, 2.35, 2.70.
$^7D_4$–$^7G'_5$ (**0.00**, 0.28, 0.57, 0.85, 1.13), **0.23**, 0.52, 0.80, 1.08, 1.37, 1.65, 1.93, 2.22, 2.50.
$^7D_5$–$^7G'_4$ (**0.00**, 0.30, 0.60, 0.90, 1.20), 0.40, 0.70, 1.00, 1.30, 1.60, 1.90, 2.20, 2.50, **2.80**.
$^7D_5$–$^7G'_5$ (0.23, 0.47, 0.70, 0.93, **1.17**), 0.43, 0.67, 0.90, 1.13, **1.37**, **1.60**, 1.83, 2.07, 2.30, 2.53.
$^7D_5$–$^7G'_6$ (**0.00**, 0.20, 0.39, 0.59, 0.78, 0.98), **0.43**, 0.62, 0.82, 1.01, 1.21, 1.40, 1.60, 1.80, 1.99, 2.19, 2.38.

$^7F_0$–$^7F'_1$=$^7F_1$–$^7F'_1$=$^7F_1$–$^7F'_2$=$^7F_2$–$^7F'_1$=$^7F_2$–$^7F'_2$=$^7F_2$–$^7F'_3$=...=$^7F_6$–$^7F'_6$ (0.00), 1.50.

$^7F_0$–$^7G_1$ (0.00), 0.50.
$^7F_1$–$^7G_1$ (2.00), −0.50, 1.50.
$^7F_1$–$^7G_2$ (**0.00**, 0.67), **0.17**, 0.83, 1.50.
$^7F_2$–$^7G_1$ (**0.00**, 2.00), −0.50, 1.50, **3.50**.
$^7F_2$–$^7G_2$ (0.67, **1.33**), 0.17, **0.83**, **1.50**, 2.17.
$^7F_2$–$^7G_3$ (**0.00**, 0.33, 0.67), **0.50**, 0.83, 1.17, 1.50, 1.83.
$^7F_3$–$^7G_2$ (**0.00**, 0.67, 1.33), 0.17, 0.83, 1.50, 2.17, **2.83**.
$^7F_3$–$^7G_3$ (0.33, 0.67, **1.00**), 0.50, 0.83, **1.17**, **1.50**, 1.83, 2.17.
$^7F_3$–$^7G_4$ (**0.00**, 0.20, 0.40, 0.60), **0.70**, 0.90, 1.10, 1.30, 1.50, 1.70, 1.90.
$^7F_4$–$^7G_3$ (**0.00**, 0.33, 0.67, 1.00), 0.50, 0.83, 1.17, 1.50, 1.83, 2.17, **2.50**.
$^7F_4$–$^7G_4$ (0.20, 0.40, 0.60, **0.80**), 0.70, 0.90, 1.10, **1.30**, **1.50**, 1.70, 1.90, 2.10.
$^7F_4$–$^7G_5$ (**0.00**, 0.13, 0.27, 0.40, 0.53), **0.83**, 0.97, 1.10, 1.23, 1.37, 1.50, 1.63, 1.77, 1.90.
$^7F_5$–$^7G_4$ (**0.00**, 0.20, 0.40, 0.60, 0.80), 0.70, 0.90, 1.10, 1.30, 1.50, 1.70, 1.90, **2.30**.
$^7F_5$–$^7G_5$ (0.13, 0.27, 0.40, 0.53, **0.67**), 0.83, 0.97, 1.10, 1.23, **1.37**, **1.50**, 1.63, 1.77, 1.90, 2.03.
$^7F_5$–$^7G_6$ (**0.00**, 0.10, 0.19, 0.29, 0.38, 0.48), **0.93**, 1.02, 1.12, 1.22, 1.31, 1.41, 1.50, 1.60, 1.69, 1.79, 1.88.
$^7F_6$–$^7G_5$ (**0.00**, 0.13, 0.27, 0.40, 0.53, 0.67), 0.83, 0.97, 1.10, 1.23, 1.37, 1.50, 1.63, 1.77, 1.90, 2.03, **2.17**.
$^7F_6$–$^7G_6$ (0.10, 0.19, 0.29, 0.38, 0.48, **0.57**), 0.93, 1.02, 1.12, 1.22, 1.31, **1.41**, **1.50**, 1.60, 1.69, 1.79, 1.88, 1.98.
$^7F_6$–$^7G_7$ (**0.00**, 0.07, 0.14, 0.21, 0.29, 0.36, 0.43), **1.00**, 1.07, 1.14, 1.21, 1.29, 1.36, 1.43, 1.50, 1.57, 1.64, 1.71, 1.78, 1.86.

$^7F_1$–$^7H'_2$ (**0.00**, 1.50), 0.00, **1.50**.
$^7F_2$–$^7H'_2$ (1.50, **3.00**), **0.00**, 1.50, 3.00.
$^7F_2$–$^7H'_3$ (**0.00**, 0.75, 1.50), **−0.75**, 0.00, 0.75, 1.50, 2.25.
$^7F_3$–$^7H'_2$ (**0.00**, 1.50, 3.00), −1.50, 0.00, 1.50, 3.00, **4.50**.
$^7F_3$–$^7H'_3$ (0.75, 1.50, **2.25**), −0.75, 0.00, **0.75**, **1.50**, 2.25, 3.00.
$^7F_3$–$^7H'_4$ (**0.00**, 0.45, 0.90, 1.35), **−0.30**, +0.15, 0.60, 1.05, 1.50, 1.95, 2.40.
$^7F_4$–$^7H'_3$ (**0.00**, 0.75, 1.50, 2.25), −0.75, 0.00, 0.75, 1.50, 2.25, 3.00, **3.75**.
$^7F_4$–$^7H'_4$ (0.45, 0.90, 1.35, **1.80**), −0.30, +0.15, 0.60, **1.05**, **1.50**, 1.95, 2.40, 2.85.
$^7F_4$–$^7H'_5$ (**0.00**, 0.30, 0.60, 0.90, 1.20), **0.00**, 0.30, 0.60, 0.90, 1.20, 1.50, 1.80, 2.10, 2.40.
$^7F_5$–$^7H'_4$ (**0.00**, 0.45, 0.90, 1.35, 1.80), −0.30, +0.15, 0.60, 1.05, 1.50, 1.95, 2.40, 1.85, **3.30**.
$^7F_5$–$^7H'_5$ (0.30, 0.60, 0.90, 1.20, **1.50**), 0.00, 0.30, 0.60, 0.90, **1.20**, **1.50**, 1.80, 2.10, 2.40, 2.70.
$^7F_5$–$^7H'_6$ (**0.00**, 0.21, 0.43, 0.64, 0.86, 1.07), **0.21**, 0.43, 0.64, 0.86, 1.07, 1.29, 1.50, 1.71, 1.93, 2.14, 2.36.
$^7F_6$–$^7H'_5$ (**0.00**, 0.30, 0.60, 0.90, 1.20, 1.50), 0.00, 0.30, 0.60, 0.90, 1.20, 1.50, 1.80, 2.10, 2.40, 2.70, **3.00**.
$^7F_6$–$^7H'_6$ (0.21, 0.43, 0.64, 0.86, 1.07, **1.28**), 0.21, 0.43, 0.64, 0.86, 1.07, **1.28**, **1.50**, 1.71, 1.93, 2.14, 2.36, 2.57.
$^7F_6$–$^7H'_7$ (**0.00**, 0.16, 0.32, 0.48, 0.64, 0.80, 0.96), **0.37**, 0.54, 0.70, 0.86, 1.02, 1.18, 1.34, 1.50, 1.66, 1.82, 1.98, 2.14, 2.30.

$^7G_1$–$^7G'_1$ (0.00), 0.50.
$^7G_1$–$^7G'_2$
$^7G_2$–$^7G'_1$ (**0.00**, 1.33), −0.50, +0.83, **2.17**.
$^7G_2$–$^7G'_2$ (0.00), 0.83.
$^7G_2$–$^7G'_3$
$^7G_3$–$^7G'_2$ (**0.00**, 0.33, 0.67), 0.50, 0.83, 1.17, 1.50, **1.83**.
$^7G_3$–$^7G'_3$ (0.00), 1.17.
$^7G_3$–$^7G'_4$
$^7G_4$–$^7G'_3$ (**0.00**, 0.13, 0.27, 0.40), 0.90, 1.03, 1.17, 1.30, 1.43, 1.57, **1.70**.
$^7G_4$–$^7G'_4$ (0.00), 1.30.
$^7G_4$–$^7G'_5$
$^7G_5$–$^7G'_4$ (**0.00**, 0.07, 0.13, 0.20, 0.27), 1.10, 1.17, 1.23, 1.30, 1.43, 1.50, 1.57, **1.63**.
$^7G_5$–$^7G'_5$ (0.00), 1.37.
$^7G_5$–$^7G'_6$
$^7G_6$–$^7G'_5$ (**0.00**, 0.04, 0.08, 0.11, 0.15, 0.19), 1.21, 1.25, 1.29, 1.33, 1.37, 1.40, 1.44, 1.48, 1.52, 1.56, **1.60**.
$^7G_6$–$^7G'_6$ (0.00), 1.40.
$^7G_6$–$^7G'_7$
$^7G_7$–$^7G'_6$ (**0.00**, 0.02, 0.05, 0.07, 0.10, 0.12, 0.14), 1.29, 1.31, 1.33, 1.36, 1.38, 1.40, 1.43, 1.45, 1.48, 1.50, 1.52, 1.55, **1.57**.
$^7G_7$–$^7G'_7$ (0.00), 1.43.

TABLE 10.—*Theoretical Zeeman effects (septet system)*—Continued

$^7G_1$–$^7H_2$ (**0.00**, 0.50), −0.50, 0.00, **0.50.**
$^7G_2$–$^7H_2$ (0.83, **1.67**), −0.83, **0.00**, **0.83**, 1.67.
$^7G_2$–$^7H_3$ (**0.00**, 0.08, 0.17), **0.58**, 0.67, 0.75, 0.83, 0.92.
$^7G_3$–$^7H_2$ (**0.00**, 1.17, 2.33), −1.17, 0.00, 1.17, 2.33, **3.50.**
$^7G_3$–$^7H_3$ (0.42, 0.83, **1.25**), 0.08, 0.33, **0.75**, **1.17**, 1.58, 2.00.
$^7G_3$–$^7H_4$ (**0.00**, 0.12, 0.23, 0.35), **0.70**, 0.82, 0.93, 1.05, 1.17, 1.28, 1.40.
$^7G_4$–$^7H_3$ (**0.00**, 0.55, 1.10, 1.65), −0.35, +0.20, 0.75, 1.30, 1.85, 2.40, **2.95.**
$^7G_4$–$^7H_4$ (0.25, 0.50, 0.75, **1.00**), 0.30, 0.55, 0.80, **1.05**, **1.30**, 1.55, 1.80, 2.05.
$^7G_4$–$^7H_5$ (**0.00**, 0.10, 0.20, 0.30, 0.40), **0.80**, 0.90, 1.00, 1.10, 1.20, 1.30, 1.40, 1.50, 1.60.
$^7G_5$–$^7H_4$ (**0.00**, 0.32, 0.63, 0.95, 1.27), 0.10, 0.42, 0.73, 1.05, 1.37, 1.68, 2.00, 2.32, **2.63.**
$^7G_5$–$^7H_5$ (0.17, 0.33, 0.50, 0.67, **0.83**), 0.53, 0.70, 0.87, 1.03, **1.20**, **1.37**, 1.53, 1.70, 1.87, 2.03.
$^7G_5$–$^7H_6$ (**0.00**, 0.08, 0.16, 0.24, 0.32, 0.40), **0.88**, 0.96, 1.04, 1.12, 1.20, 1.29, 1.37, 1.45, 1.53, 1.61, 1.69.
$^7G_6$–$^7H_5$ (**0.00**, 0.20, 0.41, 0.61, 0.82, 1.02), 0.38, 0.59, 0.79, 1.00, 1.20, 1.40, 1.61, 1.81, 2.02, 2.22, **2.43.**
$^7G_6$–$^7H_6$ (0.12, 0.24, 0.36, 0.48, 0.60, **0.71**), 0.69, 0.81, 0.93, 1.05, 1.17, **1.29**, **1.41**, 1.52, 1.64, 1.76, 1.88, 2.00.
$^7G_6$–$^7H_7$ (**0.00**, 0.07, 0.13, 0.20, 0.26, 0.33, 0.39), **0.95**, 1.01, 1.08, 1.14, 1.21, 1.27, 1.34, 1.40, 1.47, 1.54, 1.60, 1.67, 1.73.
$^7G_7$–$^7H_6$ (**0.00**, 0.14, 0.29, 0.43, 0.57, 0.71, 0.86), 0.57, 0.71, 0.86, 1.00, 1.14, 1.29, 1.43, 1.57, 1.71, 1.86, 2,00, 2.14, **2.29.**
$^7G_7$–$^7H_7$ (0.09, 0.18, 0.27, 0.36, 0.45, 0.54, **0.62**), 0.80, 0.89, 0.98, 1.07, 1.16, 1.25, **1.34**, **1.43**, 1.52, 1.61, 1.70, 1.79, 1.88, 1.96.
$^7G_7$–$^7H_8$ (**0.00**, 0.05, 0.11, 0.16, 0.21, 0.27, 0.32, 0.38), **1.00**, 1.05, 1.11, 1.16, 1.21, 1.27, 1.32, 1.38, 1.43, 1.48, 1.54, 1.59, 1.64, 1.70, 1.75.

$^7H_2$–$^7H'_2$ (0.00), 0.00 unaffected.
$^7H_2$–$^7H'_3$, $^7H_3$–$^7H'_2$ (**0.00**, 0.75, 1.50), 0.00, 0.75, 1.50, **2.25.**
$^7H_3$–$^7H'_3$ (0.00), 0.75.
$^7H_3$–$^7H'_4$, $^7H_4$–$^7H'_3$ (**0.00**, 0.30, 0.60, 0.90), 0.15, 0.45, 0.75, 1.05, 1.35, 1.65, **1.95.**
$^7H_4$–$^7H'_4$ (0.00), 1.05.
$^7H_4$–$^7H'_5$, $^7H_5$–$^7H'_4$ (**0.00**, 0.15, 0.30, 0.45, 0.60), 0.60, 0.75, 0.90, 1.05, 1.20, 1.35, 1.50, 1.65, **1.80.**
$^7H_5$–$^7H'_5$ (0.00), 1.20.
$^7H_5$–$^7H'_6$, $^7H_6$–$^7H'_5$ (**0.00**, 0.09, 0.17, 0.26, 0.34, 0.43), 0.86, 0.94, 1.03, 1.12, 1.20, 1.29, 1.37, 1.46, 1.54, 1.63, **1.72.**
$^7H_6$–$^7H'_6$ (0.00), 1.29.
$^7H_6$–$^7H'_7$, $^7H_7$–$^7H'_6$ (**0.00**, 0.05, 0.11, 0.16, 0.21, 0.27, 0.32), 1.02, 1.07, 1.13, 1.18, 1.23, 1.29, 1.34, 1.39, 1.45, 1.50, 1.56, 1.61, **1.66.**
$^7H_7$–$^7H'_7$ (0.00), 1.34.
$^7H_7$–$^7H'_8$, $^7H_8$–$^7H'_7$ (**0.00**, 0.04, 0.07, 0.11, 0.14, 0.18, 0.21, 0.25), 1.13, 1.16, 1.20, 1.23, 1.27, 1.30, 1.34, 1.38, 1.41, 1.45, 1.48, 1.52, 1.55, 1.59, **1.62.**
$^7H_8$–$^7H'_8$ (0.00), 1.37.

TABLE 11.—*Theoretical Zeeman effects (singlet-triplet intersystem)*

$^1S_0$–$^3S'_1$ (0.00), 2.00.

$^1S_0$–$^3P_1$ (0.00), 1.50.

$^1S_0$–$^3D'_1$ (0.00), 0.50.

$^1P_1$–$^3S_1$ (1.00), 1.00, 2.00.

$^1P_1$–$^3P'_0$ (0.00), 1.00.
$^1P_1$–$^3P'_1$ (0.50), 1.00, 1.50.
$^1P_1$–$^3P'_2$ (**0.00**, 0.50), 1.00, 1.50, **2.00.**

$^1P_1$–$^3D_1$ (0.50), 0.50, 1.00.
$^1P_1$–$^3D_2$ (**0.00**, 0.17), 1.00, 1.17, **1.33.**

$^1P_1$–$^3F'_2$ (**0.00**, 0.33), **0.33**, 0.67, 1.00.

$^1D_2$–$^3S'_1$ (**0.00**, 1.00), **0.00**, 1.00, 2.00.

$^1D_2$–$^3P_1$ (**0.00**, 0.50), **0.50**, 1.00, 1.50.
$^1D_2$–$^3P_2$ (0.50, **1.00**), 0.50, **1.00**, **1.50**, 2.00.

$^1D_2$–$^3D'_1$ (**0.00**, 0.50), 0.50, 1.00, **1.50.**
$^1D_2$–$^3D'_2$ (0.17, **0.33**), 0.83, **1.00**, **1.17**, 1.33.
$^1D_2$–$^3D'_3$ (**0.00**, 0.33, 0.67), 0.67, 1.00, 1.33, 1.67, **2.00.**

$^1D_2$–$^3F_2$ (0.33, **0.67**), 0.33, **0.67**, **1.00**, 1.33.
$^1D_2$–$^3F_3$ (**0.00**, 0.08, 0.17), 0.92, 1.00, 1.08, 1.17, **1.25.**

TABLE 11.—*Theoretical Zeeman effects (singlet-triplet intersystem)*—Continued

$^1D_2$–$^3G'_3$ (**0.00,** 0.25, 0.50), **0.25,** 0.50, 0.75, 1.00, 1.25.

$^1F_3$–$^3P'_2$ (**0.00,** 0.50, 1.00), **0.00,** 0.50, 1.00, 1.50, 2.00.

$^1F_3$–$^3D_2$ (**0.00,** 0.17, 0.33), **0.67,** 0.83, 1.00, 1.17, 1.33.
$^1F_3$–$^3D_3$ (0.33, 0.67, **1.00**), 0.33, 0.67, **1.00, 1.33,** 1.67, 2.00.

$^1F_3$–$^3F'_2$ (**0.00,** 0.33, 0.67), 0.33, 0.67, 1.00, 1.33, **1.67.**
$^1F_3$–$^3F'_3$ (0.08, 0.17, **0.25**), 0.83, 0.92, **1.00, 1.08,** 1.17, 1.25.
$^1F_3$–$^3F'_4$ (**0.00,** 0.25, 0.50, 0.75), 0.50, 0.75, 1.00, 1.25, 1.50, 1.75, **2.00.**

$^1F_3$–$^3G_3$ (0.25, 0.50, **0.75**), 0.25, 0.50, **0.75, 1.00,** 1.25, 1.50.
$^1F_3$–$^3G_4$ (**0.00,** 0.05, 0.10, 0.15), 0.90, 0.95, 1.00, 1.05, 1.10, 1.15, **1.20.**

$^1F_3$–$^3H'_4$ (**0.00,** 0.20, 0.40, 0.60), **0.20,** 0.40, 0.60, 0.80, 1.00, 1.20, 1.40.

$^1G_4$–$^3D'_3$ (**0.00,** 0.33, 0.67, 1.00), **0.00,** 0.33, 0.67, 1.00, 1.33, 1.67, 2.00.

$^1G_4$–$^3F_3$ (**0.00,** 0.08, 0.17, 0.25), **0.75,** 0.83, 0.92, 1.00, 1.08, 1.17, 1.25.
$^1G_4$–$^3F_4$ (0.25, 0.50, 0.75, **1.00**), 0.25, 0.50, 0.75, **1.00, 1.25,** 1.50, 1.75, 2.00.

$^1G_4$–$^3G'_3$ (**0.00,** 0.25, 0.50, 0.75), 0.25, 0.50, 0.75, 1.00, 1.25, 1.50, **1.75.**
$^1G_4$–$^3G'_4$ (0.05, 0.10, 0.15, **0.20**), 0.85, 0.90, **1.00, 1.05,** 1.10, 1.15, 1.20.
$^1G_4$–$^3G'_5$ (**0.00,** 0.20, 0.40, 0.60, 0.80), 0.40, 0.60, 0.80, 1.00, 1.20, 1.40, 1.60, 1.80, **2.00.**

$^1G_4$–$^3H_4$ (0.20, 0.40, 0.60, **0.80**), 0.20, 0.40, 0.60, **0.80, 1.00,** 1.20, 1.40, 1.60.
$^1G_4$–$^3H_5$ (**0.00,** 0.03, 0.07, 0.10, 0.13), 0.90, 0.93, 0.97, 1.00, 1.03, 1.07, 1.10, 1.13, **1.17.**

$^1G_4$–$^3I'_5$ (**0.00,** 0.17, 0.33, 0.50, 0.67), **0.17,** 0.33, 0.50, 0.67, 0.83, 1.00, 1.17, 1.33, 1.50.

$^1H_5$–$^3F'_4$ (**0.00,** 0.25, 0.50, 0.75, 1.00), **0.00,** 0.25, 0.50, 0.75, 1.00, 1.25, 1.50, 1.75, 2.00.

$^1H_5$–$^3G_4$ (**0.00,** 0.05, 0.10, 0.15, 0.20), **0.80,** 0.85, 0.90, 0.95, 1.00, 1.05, 1.10, 1.15, 1.20.
$^1H_5$–$^3G_5$ (0.20, 0.40, 0.60, 0.80, **1.00**), 0.20, 0.40, 0.60, 0.80, **1.00, 1.20,** 1.40, 1.60, 1.80, 2.00.

$^1H_5$–$^3H'_4$ (**0.00,** 0.20, 0.40, 0.60, 0.80), 0.20, 0.40, 0.60, 0.80, 1.00, 1.20, 1.40, 1.60, **1.80.**
$^1H_5$–$^3H'_5$ (0.03, 0.07, 0.10, 0.13, **0.17**), 0.87, 0.90, 0.93, 0.97, **1.00, 1.03,** 1.07, 1.10, 1.13, 1.17.
$^1H_5$–$^3H'_6$ (**0.00,** 0.17, 0.33, 0.50, 0.67, 0.83), 0.33, 0.50, 0.67, 0.83, 1.00, 1.17, 1.33, 1.50, 1.67, 1.83, **2.00.**

$^1H_5$–$^3I_5$ (0.17, 0.33, 0.50, 0.67, **0.83**), 0.17, 0.33, 0.50, 0.67, **0.83, 1.00,** 1.17, 1.33, 1.50, 1.67.
$^1H_5$–$^3I_6$ (**0.00,** 0.02, 0.05, 0.07, 0.10, 0.12), 0.90, 0.93, 0.95, 0.98, 1.00, 1.02, 1.05, 1.07, 1.10, 1.12, **1.14.**

$^1I_6$–$^3G'_5$ (**0.00,** 0.20, 0.40, 0.60, 0.80, 1.00), **0.00,** 0.20, 0.40, 0.60, 0.80, 1.00, 1.20, 1.40, 1.60, 1.80, 2.00.

$^1I_6$–$^3H_5$ (**0.00,** 0.03, 0.07, 0.10, 0.13, 0.17), **0.83,** 0.87, 0.90, 0.93, 0.97, 1.00, 1.03, 1.07, 1.10, 1.13, 1.17.
$^1I_6$–$^3H_6$ (0.17, 0.33, 0.50, 0.67, 0.83, **1.00**), 0.17, 0.33, 0.50, 0.67, 0.83, **1.00, 1.17,** 1.33, 1.50, 1.67, 1.83, 2.00.

$^1I_6$–$^3I'_5$ (**0.00,** 0.17, 0.33, 0.50, 0.67, 0.83), 0.17, 0.33, 0.50, 0.67, 0.83, 1.00, 1.17, 1.33, 1.50, 1.67, **1.83.**
$^1I_6$–$^3I'_6$ (0.02, 0.05, 0.07, 0.10, 0.12, **0.14**), 0.88, 0.90, 0.93, 0.95, 0.98, **1.00, 1.02,** 1.05, 1.07, 1.10, 1.12, 1.14.
$^1I_6$–$^3I'_7$ (**0.00,** 0.14, 0.29, 0.43, 0.57, 0.71, 0.86), 0.29, 0.43, 0.57, 0.71, 0.86, 1.00, 1.14, 1.29, 1.43, 1.57, 1.71, 1.86, **2.00.**

TABLE 12.—*Theoretical Zeeman effects (triplet-quintet intersystem)*

$^3S_1$–$^5S'_2$ (0.00), 2.00.

$^3S_1$–$^5P_1$ (0.50), 2.00, 2.50.
$^3S_1$–$^5P_2$ (**0.00,** 0.17), **1.67,** 1.83, 2.00.

$^3S_1$–$^5D'_0$ (0.00), 2.00.
$^3S_1$–$^5D'_1$ (0.50), 1.50, 2.00.
$^3S_1$–$^5D'_2$ (**0.00,** 0.50), **1.00,** 1.50, 2.00.

$^3P_1$–$^5S_2$ (**0.00,** 0.50), 1.50, 2.00, **2.50.**
$^3P_2$–$^5S_2$ (0.50, **1.00**), 1.00, **1.50, 2.00,** 2.50.

$^3P_0$–$^5P'_1$ (0.00), 2.50.
$^3P_1$–$^5P'_1$ (1.00), 1.50, 2.50.
$^3P_1$–$^5P'_2$ (**0.00,** 0.33), 1.50, 1.83, **2.17.**
$^3P_2$–$^5P'_1$ (**0.00,** 1.00), **0.50,** 1.50, 2.50.
$^3P_2$–$^5P'_2$ (0.33, **0.67**), 1.17, **1.50, 1.83,** 2.17.
$^3P_2$–$^5P'_3$ (**0.00,** 0.17, 0.33), 1.33, 1.50, 1.67, 1.83, **2.00.**

$^3P_0$–$^5D_1$=$^3P_1$–$^5D_1$=$^3P_1$–$^5D_2$=$^3P_2$–$^5D_1$= . . . =$^3P_2$–$^5D_3$ (0.00), **1.50.**

TABLE 12.—*Theoretical Zeeman effects (triplet-quintet intersystem)*—Continued

$^3P_0$–$^5F'_1$ (0.00), 0.00, unaffected.
$^3P_1$–$^5F'_1$ (1.50), 0.00, 1.50.
$^3P_1$–$^5F'_2$ (**0.00**, 0.50), **0.50**, 1.00, 1.50.
$^3P_2$–$^5F'_1$ (**0.00**, 1.50), 0.00, 1.50, **3.00**.
$^3P_2$–$^5F'_2$ (0.50, **1.00**), 0.50, **1.00**, **1.50**, 2.00.
$^3P_2$–$^5F'_3$ (**0.00**, 0.25, 0.50), **0.75**, 1.00, 1.25, 1.50, 1.75.

$^3D_1$–$^5S'_2$ (**0.00**, 1.50), 0.50, 2.00, **3.50**.
$^3D_2$–$^5S'_2$ (0.83, **1.67**), 0.33, **1.17**, **2.00**, 2.83.
$^3D_3$–$^5S'_2$ (**0.00**, 0.67, 1.33), **0.00**, 0.67, 1.33, 2.00, **2.67**.

$^3D_1$–$^5P_1$ (2.00), 0.50, 2.50.
$^3D_1$–$^5P_2$ (**0.00**, 1.33), 0.50, 1.83, **3.17**.
$^3D_2$–$^5P_1$ (**0.00**, 1.33), **−0.17**, +1.17, 2.50.
$^3D_2$–$^5P_2$ (0.67, **1.33**), 0.50, **1.17**, **1.83**, 2.50.
$^3D_2$–$^5P_3$ (**0.00**, 0.50, 1.00), 0.67, 1.17, 1.67, 2.17, **2.67**.
$^3D_3$–$^5P_2$ (**0.00**, 0.50, 1.00), **0.33**, 0.83, 1.33, 1.83, 2.33.
$^3D_3$–$^5P_3$ (0.33, 0.67. **1.00**), 0.67, 1.00, **1.33**, **1.67**, 2.00, 2.33.

$^3D_1$–$^5D'_0$ (0.00), 0.50.
$^3D_1$–$^5D'_1$ (1.00), 0.50, 1.50.
$^3D_1$–$^5D'_2$ (**0.00**, 1.00), 0.50, 1.50, **2.50**.
$^3D_2$–$^5D'_1$ (**0.00**, 0.33), **0.83**, 1.17, 1.50.
$^3D_2$–$^5D'_2$ (0.33, **0.67**), 0.83, **1.17**, **1.50**, 1.83.
$^3D_2$–$^5D'_3$ (**0.00**, 0.33, 0.67), 0.83, 1.17, 1.50, 1.83, **2.17**.
$^3D_3$–$^5D'_2$ (**0.00**, 0.17, 0.33), **1.00**, 1.17, 1.33, 1.50, 1.67.
$^3D_3$–$^5D'_3$ (0.17, 0.33, **0.50**), 1.00, 1.17, **1.33**, **1.50**, 1.67, 1.83.
$^3D_3$–$^5D'_4$ (**0.00**, 0.17, 0.33, 0.50), 1.00, 1.17, 1.33, 1.50, 1.67, 1.83, **2.00**.

$^3D_1$–$^5F_1$ (0.50), 0.00, 0.50.
$^3D_1$–$^5F_2$ (**0.00**, 0.50), 0.50, 1.00, **1.50**.
$^3D_2$–$^5F_1$ (**0.00**, 1.17), 0.00, 1.17, **2.33**.
$^3D_2$–$^5F_2$ (0.17, **0.33**), 0.83, **1.00**, **1.17**, 1.33.
$^3D_2$–$^5F_3$ (**0.00**, 0.08, 0.17), 1.08, 1.17, 1.25, 1.33, **1.42**.
$^3D_3$–$^5F_2$ (**0.00**, 0.33, 0.67), 0.67, 1.00. 1.33, 1.67, **2.00**.
$^3D_3$–$^5F_3$ (0.08, 0.17, **0.25**), 1.08, 1.17, **1.25**, **1.33**, 1.42, 1.50.
$^3D_3$–$^5F_4$ (**0.00**, 0.02, 0.03, 0.05), 1.30, 1.32, 1.33, 1.35, 1.37, 1.38, **1.40**.

$^3D_1$–$^5G'_2$ (**0.00**, 0.17), **0.17**, 0.33, 0.50.
$^3D_2$–$^5G'_2$ (0.83, **1.67**), −0.50, +**0.33**, **1.17**, 2.00.
$^3D_2$–$^5G'_3$ (**0.00**, 0.25, 0.50), **0.42**, 0.67, 0.92, 1.17, 1.42.
$^3D_3$–$^5G'_2$ (**0.00**, 1.00, 2.00), −0.67, +0.33, 1.33, 2.33, **3.33**.
$^3D_3$–$^5G'_3$ (0.42, 0.83, **1.25**), 0.08, 0.50, **0.92**, **1.33**, 1.75, 2.17.
$^3D_3$–$^5G'_4$ (**0.00**, 0.18, 0.37, 0.55), **0.60**, 0.78, 0.97, 1.15, 1.33, 1.52, 1.70.

$^3F_2$–$^5P'_1$ (**0.00**, 1.83), **−1.17**, +0.67, 2.50.
$^3F_2$–$^5P'_2$ (1.17, **2.33**), **−0.50**, +0.67, 1.83, 3.00.
$^3F_2$–$^5P'_3$ (**0.00**, 1.00, 2.00), −0.33, +0.67, 1.67, 2.67, **3.67**.
$^3F_3$–$^5P'_2$ (**0.00**, 0.75, 1.50), **−0.42**, +0.33, 1.08, 1.83, 2.58.
$^3F_3$–$^5P'_3$ (0.58, 1.17, **1.75**), −0.08, +0.50, **1.08**, **1.67**, 2.25, 2.83.
$^3F_4$–$^5P'_3$ (**0.00**, 0.42, 0.83, 1.25), **0.00**, 0.42, 0.83, 1.25, 1.67, 2.08, 2.50.

$^3F_2$–$^5D_1$ (**0.00**, 0.83), **−0.17**, +0.67, 1.50.
$^3F_2$–$^5D_2$ (0.83, **1.67**), −0.17, +**0.67**, **1.50**, 2.33.
$^3F_2$–$^5D_3$ (**0.00**, 0.83, 1.67), −0.17, +0.67, 1.50, 2.33, **3.17**.
$^3F_3$–$^5D_2$ (**0.00**, 0.42, 0.83), **0.25**, 0.67, 1.08, 1.50, 1.92.
$^3F_3$–$^5D_3$ (0.42, 0.83, **1.25**), 0.25, 0.67, **1.08**, **1.50**, 1.92, 2.33.
$^3F_3$–$^5D_4$ (**0.00**, 0.42, 0.83, 1.25), 0.25, 0.67, 1.08, 1.50, 1.92, 2.33, **2.75**.
$^3F_4$–$^5D_3$ (**0.00**, 0.25, 0.50, 0.75), **0.50**, 0.75, 1.00, 1.25, 1.50, 1.75, 2.00.
$^3F_4$–$^5D_4$ (0.25, 0.50, 0.75, **1.00**), 0.50, 0.75, 1.00, **1.25**, **1.50**, 1.75, 2.00, 2.25.

$^3F_2$–$^5F'_1$ (**0.00**, 0.67), 0.00, 0.67, **1.33**.
$^3F_2$–$^5F'_2$ (0.33, **0.67**), 0.33, **0.67**, **1.00**, 1.33.
$^3F_2$–$^5F'_3$ (**0.00**, 0.58, 1.17), 0.08, 0.67, 1.25, 1.83, **2.42**.
$^3F_3$–$^5F'_2$ (**0.00**, 0.08, 0.17), 0.92, 1.00, 1.08, 1.17, **1.25**.
$^3F_3$–$^5F'_3$ (0.17, 0.33, **0.50**), 0.75, 0.92, **1.08**, **1.25**, 1.42, 1.58.
$^3F_3$–$^5F'_4$ (**0.00**, 0.27, 0.53, 0.80), 0.55, 0.82, 1.08, 1.35, 1.62, 1.88, **2.15**.
$^3F_4$–$^5F'_3$ (0.00), 1.25.
$^3F_4$–$^5F'_4$ (0.10, 0.20, 0.30, **0.40**), 0.95, 1.05, 1.15, **1.25**, **1.35**, 1.45, 1.55, 1.65.
$^3F_4$–$^5F'_5$ (**0.00**, 0.15, 0.30, 0.45, 0.60), 0.80, 0.95, 1.10, 1.25, 1.40, 1.55, 1.70, 1.85, **2.00**.

TABLE 12.—*Theoretical Zeeman effects (triplet-quintet intersystem)*—Continued

$^3F_2$–$^5G_2$ (0.33, **0.67**), 0.00, **0.33, 0.67**, 1.00.
$^3F_2$–$^5G_3$ (**0.00**, 0.25, 0.50), 0.42, 0.67, 0.92, 1.17, **1.42.**
$^3F_3$–$^5G_2$ (**0.00**, 0.75, 1.50), −0.42, +0.33, 1.08, 1.83, **2.58.**
$^3F_3$–$^5G_3$ (0.17, 0.33, **0.50**), 0.58, 0.75, **0.92, 1.08**, 1.25, 1.42.
$^3F_3$–$^5G_4$ (**0.00**, 0.07, 0.13, 0.20), 0.95, 1.02, 1.08, 1.15, 1.22, 1.28, **1.35.**
$^3F_4$–$^5G_3$ (**0.00**, 0.33, 0.67, 1.00), 0.25, 0.58, 0.92, 1.25, 1.58, 1.92, **2.25.**
$^3F_4$–$^5G_4$ (0.10, 0.20, 0.30, **0.40**), 0.85, 0.95, 1.05, **1.15, 1.25**, 1.35, 1.45, 1.55.
$^3F_4$–$^5G_5$ (**0.00**, 0.02, 0.03, 0.05, 0.07), 1.20, 1.22, 1.23, 1.25, 1.27, 1.28, 1.30, 1.32, **1.33.**

$^3F_2$–$^5H'_3$ (**0.00**, 0.17, 0.33), **0.17**, 0.33, 0.50, 0.67, 0.83.
$^3F_3$–$^5H'_3$ (0.58, 1.17, **1.75**), −0.67, −0.08, +**0.50, 1.08**, 1.67, 2.25.
$^3F_3$–$^5H'_4$ (**0.00**, 0.18, 0.37, 0.55), **0.35**, 0.53, 0.72, 0.90, 1.08, 1.27, 1.45.
$^3F_4$–$^5H'_3$ (**0.00**, 0.75, 1.50, 2.25), −1.00, −0.25, +0.50, 1.25, 2.00, 2.75, **3.50.**
$^3F_4$–$^5H'_4$ (0.35, 0.70, 1.05, **1.40**), −0.15, +0.20, 0.55, **0.90, 1.25**, 1.60, 1.95, 2.30.
$^3F_4$–$^5H'_5$ (**0.00**, 0.15, 0.30, 0.45, 0.60), **0.50**, 0.65, 0.80, 0.95, 1.10, 1.25, 1.40, 1.55, 1.70.

$^3G_3$–$^5D'_2$ (**0.00**, 0.75, 1.50), −**0.75**, 0.00, 0.75, 1.50, 2.25.
$^3G_3$–$^5D'_3$ (0.75, 1.50, **2.25**), −0.75, 0.00, **0.75, 1.50**, 2.25, 3.00.
$^3G_3$–$^5D'_4$ (**0.00**, 0.75, 1.50, 2.25,) −0.75, 0.00, 0.75, 1.50, 2.25, 3.00, **3.75.**
$^3G_4$–$^5D'_3$ (**0.00**, 0.45, 0.90, 1.35), −**0.30**, +0.15, 0.60, 1.05, 1.50, 1.95, 2.40.
$^3G_4$–$^5D'_4$ (0.45, 0.90, 1.35, **1.80**), −0.30, +0.15, 0.60, **1.05, 1.50**, 1.95, 2.40, 2.85.
$^3G_5$–$^5D_4$ (**0.00**, 0.30, 0.60, 0.90, 1.20), **0.00**, 0.30, 0.60, 0.90, 1.20, 1.50, 1.80, 2.10, 2.40.

$^3G_3$–$^5F_2$ (**0.00**, 0.25, 0.50), **0.25**, 0.50, 0.75, 1.00, 1.25.
$^3G_3$–$^5F_3$ (0.50, 1.00, **1.50**), −0.25, +0.25, **0.75, 1.25**, 1.75, 2.25.
$^3G_3$–$^5F_4$ (**0.00**, 0.60, 1.20, 1.80), −0.45, +0.15, 0.75, 1.35, 1.95, 2.55, **3.15.**
$^3G_4$–$^5F_3$ (**0.00**, 0.20, 0.40, 0.60), **0.45**, 0.65, 0.85, 1.05, 1.25, 1.45, 1.65.
$^3G_4$–$^5F_4$ (0.30, 0.60, 0.90, **1.20**), 0.15, 0.45, 0.75, **1.05, 1.35**, 1.65, 1.95, 2.25.
$^3G_4$–$^5F_5$ (**0.00**, 0.35, 0.70, 1.05, 1.40), 0.00, 0.35, 0.70, 1.05, 1.40, 1.75, 2.10, 2.45, **2.80.**
$^3G_5$–$^5F_4$ (**0.00**, 0.15, 0.30, 0.45, 0.60), **0.60**, 0.75, 0.90, 1.05, 1.20, 1.35, 1.50, 1.65, 1.80.
$^3G_5$–$^5F_5$ (0.20, 0.40, 0.60, 0.80, **1.00**), 0.40, 0.60, 0.80, 1.00, **1.20, 1.40**, 1.60, 1.80, 2.00, 2.20.

$^3G_3$–$^5G'_2$ (**0.00**, 0.42, 0.83), −0.08, +0.33, 0.75, 1.17, **1.58.**
$^3G_3$–$^5G'_3$ (0.17, 0.33, **0.50**), 0.42, 0.58, **0.75, 0.92**, 1.08, 1.25.
$^3G_3$–$^5G'_4$ (**0.00**, 0.40, 0.80, 1.20), −0.05, +0.35, 0.75, 1.15, 1.55, 1.95, **2.35.**
$^3G_4$–$^5G'_3$ (**0.00**, 0.13, 0.27, 0.40), 0.65, 0.78, 0.92, 1.05, 1.18, 1.32, **1.45.**
$^3G_4$–$^5G'_4$ (0.10, 0.20, 0.30, **0.40**), 0.75, 0.85, 0.95, **1.05, 1.15**, 1.25, 1.35, 1.45.
$^3G_4$–$^5G'_5$ (**0.00**, 0.22, 0.43, 0.65, 0.87), 0.40, 0.62, 0.83, 1.05, 1.27, 1.48, 1.70, 1.92, **2.13.**
$^3G_5$–$^5G'_4$ (**0.00**, 0.05, 0.10, 0.15, 0.20), 1.00, 1.05, 1.10, 1.15, 1.20, 1.25, 1.30, 1.35, **1.40.**
$^3G_5$–$^5G'_5$ (0.07, 0.13, 0.20, 0.27, **0.33**), 0.93, 1.00, 1.07, 1.13, **1.20, 1.27**, 1.33, 1.40, 1.47, 1.53.
$^3G_5$–$^5G'_6$ (**0.00**, 0.13, 0.27, 0.40, 0.53, 0.67), 0.67, 0.80, 0.93, 1.07, 1.20, 1.33, 1.47, 1.60, 1.73, 1.87, **2.00.**

$^3G_3$–$^5H_3$ (0.25, 0.50, **0.75**), 0.00, 0.25, **0.50, 0.75**, 1.00, 1.25.
$^3G_3$–$^5H_4$ (**0.00**, 0.15, 0.30, 0.45), 0.45, 0.60, 0.75, 0.90, 1.05, 1.20, **1.35.**
$^3G_4$–$^5H_3$ (**0.00**, 0.55, 1.10, 1.65), −0.60, −0.05, +0.50, 1.05, 1.60, 2.15, **2.70.**
$^3G_4$–$^5H_4$ (0.15, 0.30, 0.45, **0.60**), 0.45, 0.60, 0.75, **0.90, 1.05**, 1.20, 1.35, 1.50.
$^3G_4$–$^5H_5$ (**0.00**, 0.05, 0.10, 0.15, 0.20), 0.90, 0.95, 1.00, 1.05, 1.10, 1.15, 1.20, 1.25, **1.30.**
$^3G_5$–$^5H_4$ (**0.00**, 0.30, 0.60, 0.90, 1.20), **0.00**, 0.30, 0.60, 0.90, 1.20, 1.50, 1.80, 2.10, **2.40.**
$^3G_5$–$^5H_5$ (0.10, 0.20, 0.30, 0.40, **0.50**), 0.70, 0.80, 0.90, 1.00, **1.10, 1.20**, 1.30, 1.40, 1.50, 1.60.
$^3G_5$–$^5H_6$ (**0.00**, 0.01, 0.03, 0.04, 0.06, 0.07), 1.14, 1.16, 1.17, 1.19, 1.20, 1.21, 1.23, 1.24, 1.26, 1.27, **1.29.**

$^3G_3$–$^5I'_4$ (**0.00**, 0.15, 0.30, 0.45), **0.15**, 0.30, 0.45, 0.60, 0.75, 0.90, 1.05.
$^3G_4$–$^5I'_4$ (0.45, 0.90, 1.35, **1.80**), −0.75, −0.30, +0.15, **0.60, 1.05**, 1.50, 1.95, 2.40.
$^3G_4$–$^5I'_5$ (**0.00**, 0.15, 0.30, 0.45, 0.60), **0.30**, 0.45, 0.60, 0.75, 0.90, 1.05, 1.20, 1.35, 1.50.
$^3G_5$–$^5I'_4$ (**0.00**, 0.60, 1.20, 1.80, 2.40), −1.20, −0.60, 0.00, 0.60, 1.20, 1.80, 2.40, 3.00, **3.60.**
$^3G_5$–$^5I'_5$ (0.30, 0.60, 0.90, 1.20, **1.50**), −0.30, 0.00, 0.30, 0.60, **0.90, 1.20**, 1.50, 1.80, 2.10, 2.40.
$^3G_5$–$^5I'_6$ (**0.00**, 0.13, 0.26, 0.38, 0.51, 0.64), **0.43**, 0.56, 0.69, 0.81, 0.94, 1.07, 1.20, 1.33, 1.46, 1.59, 1.72.

$^3H_4$–$^5F'_3$ (**0.00**, 0.45, 0.90, 1.35), −**0.55**, −0.10, +0.35, 0.80, 1.25, 1.70, 2.15.
$^3H_4$–$^5F'_4$ (0.55, 1.10, 1.65, **2.20**), −0.85, −0.30, +0.25, **0.80, 1.35**, 1.90, 2.45, 3.00.
$^3H_4$–$^5F'_5$ (**0.00**, 0.60, 1.20, 1.80, 2.40), −1.00, −0.40, +0.20, 0.80, 1.40, 2.00, 2.60, 3.20, **3.80.**
$^3H_5$–$^5F'_4$ (**0.00**, 0.31, 0.63, 0.95, 1.27), −**0.33**, +0.08, 0.40, 0.72, 1.03, 1.35, 1.67, 1.98, 2.30.
$^3H_5$–$^5F'_5$ (0.37, 0.73, 1.10, 1.47, **1.83**), −0.43, −0.07, +0.30, 0.67, **1.03, 1.40**, 1.77, 2.13, 2.50, 2.87.
$^3H_6$–$^5F'_5$ (**0.00**, 0.23, 0.47, 0.70, 0.93, 1.17), **0.00**, 0.23, 0.47, 0.70, 0.93, 1.17, 1.40, 1.63, 1.87, 2.10, 2.33.

$^3H_4$–$^5G_3$ (**0.00**, 0.12, 0.23, 0.35), **0.45**, 0.57, 0.68, 0.80, 0.92, 1.03, 1.15.
$^3H_4$–$^5G_4$ (0.35, 0.70, 1.05, **1.40**), −0.25, +0.10, 0.45, **0.80, 1.15**, 1.50, 1.85, 2.20.
$^3H_4$–$^5G_5$ (**0.00**, 0.47, 0.93, 1.40, 1.87), −0.60, −0.13, +0.33, 0.80, 1.27, 173, 2.20, 2.67, **3.13.**
$^3H_5$–$^5G_4$ (**0.00**, 0.12, 0.23, 0.35, 0.47), **0.57**, 0.68, 0.80, 0.92, 1.03, 1.15, 1.27, 1.38, 1.50.
$^3H_5$–$^5G_5$ (0.23, 0.47, 0.70, 0.93, **1.17**), 0.10, 0.33, 0.57, 0.80, **1.03, 1.27**, 1.50, 1.73, 1.97, 2.20.

TABLE 12.—*Theoretical Zeeman effects (triplet-quintet intersystem)*—Continued

$^3H_5$–$^5G_5$ (**0.00**, 0.30, 0.60, 0.90, 1.20, 1.50), −0.17, +0.13, 0.43, 0.73, 1.03, 1.33, 1.63, 1.93, 2.23, 2.53, **2.83.**
$^3H_6$–$^5G_5$ (**0.00**, 0.10, 0.20, 0.30, 0.40, 0.50), **0.67**, 0.77, 0.87, 0.97, 1.07, 1.17, 1.27, 1.37, 1.47, 1.57, 1.67.
$^3H_6$–$^5G_6$ (0.17, 0.33, 0.50, 0.67, 0.83, **1.00**), 0.33, 0.50, 0.67, 0.83, 1.00, **1.17, 1.33,** 1.50, 1.67, 1.83, 2.00, 2.17.

$^3H_4$–$^5H'_3$ (**0.00**, 0.30, 0.60, 0.90), −0.10, +0.20, 0.50, 0.80, 1.10, 1.40, **1.70.**
$^3H_4$–$^5H'_4$ (0.10, 0.20, 0.30, **0.40**), 0.50, 0.60, 0.70, **0.80, 0.90,** 1.00, 1.10, 1.20.
$^3H_4$–$^5H'_5$ (**0.00**, 0.30, 0.60, 0.90, 1.20), −0.10, +0.20, 0.50, 0.80, 1.10, 1.40, 1.70, 2.00, **2.30.**
$^3H_5$–$^5H'_4$ (**0.00**, 0.13, 0.27, 0.40, 0.53), 0.50, 0.63, 0.77, 0.90, 1.03, 1.17, 1.30, 1.43, **1.57.**
$^3H_5$–$^5H'_5$ (0.07, 0.13, 0.20, 0.27, **0.33**), 0.77, 0.83, 0.90, 0.97, **1.03, 1.10,** 1.17, 1.23, 1.30, 1.37.
$^3H_5$–$^5H'_6$ (**0.00**, 0.18, 0.36, 0.54, 0.72, 0.90), 0.31, 0.49, 0.67, 0.85, 1.03, 1.21, 1.40, 1.58, 1.76, 1.94, **2.12.**
$^3H_6$–$^5H'_5$ (**0.00**, 0.07, 0.13, 0.20, 0.27, 0.33), 0.83, 0.90, 0.97, 1.03, 1.10, 1.17, 1.23, 1.30, 1.37, 1.43, **1.50.**
$^3H_6$–$^5H'_6$ (0.05, 0.10, 0.14, 0.19, 0.24, **0.29**), 0.93, 0.98, 1.02, 1.07, 1.12, **1.17, 1.21,** 1.26, 1.31, 1.36, 1.40, 1.45.
$^3H_6$–$^5H'_7$ (**0.00**, 0.12, 0.24, 0.36, 0.48, 0.60, 0.71), 0.57, 0.69, 0.81, 0.93, 1.05, 1.17, 1.29, 1.40, 1.52, 1.64, 1.76, 1.88, **2.00.**

$^3H_4$–$^5I_4$ (0.20, 0.40, 0.60, **0.80**), 0.00, 0.20, 0.40, **0.60, 0.80,** 1.00, 1.20, 1.40.
$^3H_4$–$^5I_5$ (**0.00**, 0.10, 0.20, 0.30, 0.40), 0.50, 0.60, 0.70, 0.80, 0.90, 1.00, 1.10, 1.20, **1.30.**
$^3H_5$–$^5I_4$ (**0.00**, 0.43, 0.87, 1.30, 1.73), −0.70, −0.27, +0.17, 0.60, 1.03, 1.47, 1.90, **2.34.**
$^3H_5$–$^5I_5$ (0.13, 0.27, 0.40, 0.53, **0.67**), 0.37, 0.50, 0.63, 0.77, **0.90, 1.03,** 1.17, 1.30, 1.43, 1.57.
$^3H_5$–$^5I_6$ (**0.00**, 0.04, 0.08, 0.11, 0.15, 0.19), 0.88, 0.92, 0.96, 0.99, 1.03, 1.07, 1.11, 1.15, 1.18, 1.22, **1.26.**
$^3H_6$–$^5I_5$ (**0.00**, 0.27, 0.53, 0.80, 1.07, 1.33), −0.17, +0.10, 0.37, 0.63, 0.90, 1.17, 1.43, 1.70, 1.97, 2.23, **2.50.**
$^3H_6$–$^5I_6$ (0.10, 0.19, 0.29, 0.38, 0.48, **0.57**), 0.60, 0.69, 0.79, 0.88, 0.98, **1.07, 1.17,** 1.27, 1.36, 1.45, 1.55, 1.64.
$^3H_6$–$^5I_7$ (**0.00**, 0.01, 0.02, 0.04, 0.05, 0.06, 0.07), 1.11, 1.12, 1.13, 1.14, 1.16, 1.17, 1.18, 1.19, 1.20, 1.22, 1.23, 1.24, **1.25.**

TABLE 13.—*Theoretical Zeeman effects (quintet-septet intersystem)*

$^5S_2$–$^7S'_3$ (0.00), 2.00.

$^5S_2$–$^7P_2$ (0.33, **0.67**), 1.67, **2.00**, **2.33**, 2.67.
$^5S_2$–$^7P_3$ (**0.00**, 0.08, 0.17), **1.75**, 1.83, 1.92, 2.00, 2.08.

$^5S_2$–$^7D'_1$ (**0.00**, 1.00), **1.00**, 2.00, 3.00.
$^5S_2$–$^7D'_2$ (0.00), 2.00.
$^5S_2$–$^7D'_3$ (**0.00**, 0.25, 0.50), **1.25**, 1.50, 1.75, 2.00, 2.25.

$^5P_2$–$^7S_3$ (**0.00**, 0.17, 0.33), 1.67, 1.83, 2.00, 2.17, **2.33**.
$^5P_3$–$^7S_3$ (0.33, 0.67, **1.00**), 1.00, 1.33, **1.67**, **2.00**, 2.33, 2.67.

$^5P_1$–$^7P'_2$ (**0.00**, 0.17), **2.17**, 2,33, 2.50.
$^5P_2$–$^7P'_2$ (0.50, **1.00**), 1.33, **1.83**, **2.33**, 2.83.
$^5P_2$–$^7P'_3$ (**0.00**, 0.08, 0.17), 1.75, 1.83, 1.92, 2.00, **2.08**.
$^5P_3$–$^7P'_2$ (**0.00**, 0.67, 1.33), **0.33**, 1.00, 1.67, 2.33, 3.00.
$^5P_3$–$^7P'_3$ (0.25, 0.50, **0.75**), 1.17, 1.42, **1.67**, **1.92**, 2.17, 2.42.
$^5P_3$–$^7P'_4$ (**0.00**, 0.08, 0.17, 0.25), 1.50, 1.58, 1.67, 1.75, 1.83, 1.92, **2.00.**

$^5P_1$–$^7D_1$ (0.50), 2.50, 3.00.
$^5P_1$–$^7D_2$ (**0.00**, 0.50), **1.50**, 2.00, 2.50.
$^5P_2$–$^7D_1$ (**0.00**, 1.17), **0.67**, 1.83, 3.00.
$^5P_2$–$^7D_2$ (0.17, **0.33**), 1.67, **1.83**, **2.00**, 2.17.
$^5P_2$–$^7D_3$ (**0.00**, 0.08, 0.17), **1.58**, 1.67, 1.75, 1.83, 1.92.
$^5P_3$–$^7D_2$ (**0.00**, 0.33, 0.67), **1.00**, 1.33, 1.67, 2.00. 2.33.
$^5P_3$–$^7D_3$ (0.08, 0.17, **0.25**), 1.50, 1.58, **1.67**, **1.75**, 1.83, 1.92.
$^5P_3$–$^7D_4$ (**0.00**, 0.02, 0.03, 0.05), **1.60**, 1.62, 1.63, 1.65, 1.67, 1.68, 1.70.

$^5P_1$–$^7F'_0$ (0.00), 2.50.
$^5P_1$–$^7F'_1$ (1.00), 1.50, 2.50.
$^5P_1$–$^7F'_2$ (**0.00**, 1.00), **0.50**, 1.50, 2.50.
$^5P_2$–$^7F'_1$ (**0.00**, 0.33), 1.50, 1.83, **2.17**.
$^5P_2$–$^7F'_2$ (0.33, **0.67**), 1.17, **1.50**, **1.83**, 2.17.
$^5P_2$–$^7F'_3$ (**0.00**, 0.33, 0.67), **0.83**, 1.17, 1.50, 1.83, 2.17.
$^5P_3$–$^7F'_2$ (**0.00**, 0.17, 0.33), 1.33, 1.50, 1.67, 1.83, **2.00**.
$^5P_3$–$^7F'_3$ (0.17, 0.33, **0.50**), 1.17, 1.33, **1.50**, **1.67**, 1.83, 2.00.
$^5P_3$–$^7F'_4$ (**0.00**, 0.17, 0.33, 0.50), **1.00**, 1.17, 1.33, 1.50, 1.67, 1.83, 2.00.

$^5D_2$–$^7S'_3$ (**0.00**, 0.50, 1.00), 1.00, 1.50, 2.00, 2.50, **3.00**.
$^5D_3$–$^7S'_3$ (0.50, 1.00, **1.50**), 0.50, 1.00, **1.50**, **2.00**, 2.50, 3.00.
$^5D_4$–$^7S'_3$ (**0.00**, 0.50, 1.00, 1.50), **0.00**, 0.50, 1.00, 1.50, 2.00, 2.50, 3.00

TABLE 13.—*Theoretical Zeeman effects (quintet-septet intersystem)*—Continued

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$^5D_1$–$^7P_2$ (**0.00,** 0.83), 1.50, 2.33, **3.17.**
$^5D_2$–$^7P_2$ (0.83, **1.67**), 0.67, **1.50, 2.33,** 3.17.
$^5D_2$–$^7P_3$ (**0.00,** 0.42, 0.83), 1.08, 1.50, 1.92, 2.33, **2.75.**
$^5D_3$–$^7P_2$ (**0.00,** 0.83, 1.67), **−0.17,** +0.67, 1.50, 2.33, 3.17.
$^5D_3$–$^7P_3$ (0.42, 0.83, **1.25**), 0.67, 1.08, **1.50, 1.92,** 2.33, 2.75.
$^5D_3$–$^7P_4$ (**0.00,** 0.25, 0.50, 0.75), 1.00, 1.25, 1.50, 1.75, 2.00, 2.25, **2.50.**
$^5D_4$–$^7P_3$ (**0.00,** 0.42, 0.83, 1.25), **0.25,** 0.67, 1.08, 1.50, 1.92, 2.33, 2.75.
$^5D_4$–$^7P_4$ (0.25, 0.50, 0.75, **1.00**), 0.75, 1.00, 1.25, **1.50, 1.75,** 2.00, 2.25, 2.50.

$^5D_0$–$^7D'_1$ (0.00), 3.00.
$^5D_1$–$^7D'_1$ (1.50), 1.50, 3.00.
$^5D_1$–$^7D'_2$ (**0.00,** 0.50), 1.50, 2.00, **2.50.**
$^5D_2$–$^7D'_1$ (**0.00,** 1.50), **0.00,** 1.50, 3.00.
$^5D_2$–$^7D'_2$ (0.50, **1.00**), 1.00, **1.50, 2.00,** 2.50.
$^5D_2$–$^7D'_3$ (**0.00,** 0.25, 0.50), 1.25, 1.50, 1.75, 2.00, **2.25.**
$^5D_3$–$^7D'_2$ (**0.00,** 0.50, 1.00), **0.50,** 1.00, 1.50, 2.00, 2.50.
$^5D_3$–$^7D'_3$ (0.25, 0.50, **0.75**), 1.00, 1.25, **1.50, 1.75,** 2.00, 2.25.
$^5D_3$–$^7D'_4$ (**0.00,** 0.15, 0.30, 0.45), 1.20, 1.35, 1.50, 1.65, 1.80, 1.95, **2.10.**
$^5D_4$–$^7D'_3$ (**0.00,** 0.25, 0.50, 0.75), **0.75,** 1.00, 1.25, 1.50, 1.75, 2.00, 2.25.
$^5D_4$–$^7D'_4$ (0.15, 0.30, 0.45, **0.60**), 1.05, 1.20, 1.35, **1.50, 1.65,** 1.80, 1.95, 2.10.
$^5D_4$–$^7D'_5$ (**0.00,** 0.10, 0.20, 0.30, 0.40), 1.20, 1.30, 1.40, 1.50, 1.60, 1.70, 1.80, 1.90, **2.00.**

$^5D_0$–$^7F_1$=$^5D_1$–$^7F_0$=$^7D_1$–$^7F_1$=$^5D_1$–$^7F_2$=$^5D_2$–$^7F_1$=$^5D_2$–$^7F_2$=$^5D_2$–$^7F_3$=. . .=$^5D_4$–$^7F_5$ (0.00), 1.50.

$^5D_0$–$^7G'_1$ (0.00), 0.50.
$^5D_1$–$^7G'_1$ (2.00), −0.50, +1.50.
$^5D_1$–$^7G'_2$ (**0.00,** 0.67), **0.17,** 0.83, 1.50.
$^5D_2$–$^7G'_1$ (**0.00,** 2.00), −0.50, +1.50, **3.50.**
$^5D_2$–$^7G'_2$ (0.67, **1.33**), 0.17, **0.83, 1.50,** 2.17.
$^5D_2$–$^7G'_3$ (**0.00,** 0.33, 0.67), **0.50,** 0.83, 1.17, 1.50, 1.83.
$^5D_3$–$^7G'_2$ (**0.00,** 0.67, 1.33), 0.17, 0.83, 1.50, 2.17, **2.83.**
$^5D_3$–$^7G'_3$ (0.33, 0.67, **1.00**), 0.50, 0.83, **1.17, 1.50,** 1.83, 2.17.
$^5D_3$–$^7G'_4$ (**0.00,** 0.20, 0.40, 0.60), **0.70,** 0.90, 1.10, 1.30, 1.50, 1.70, 1.90.
$^5D_4$–$^7G'_3$ (**0.00,** 0.33, 0.67, 1.00), 0.50, 0.83, 1.17, 1.50, 1.83, 2.17, **2.50.**
$^5D_4$–$^7G'_4$ (0.20, 0.40, 0.60, **0.80**), 0.70, 0.90, 1.10, **1.30, 1.50,** 1.70, 1.90, 2.10.
$^5D_4$–$^7G'_5$ (**0.00,** 0.13, 0.27, 0.40, 0.53), **0.83,** 0.97, 1.10, 1.23, 1.37, 1.50, 1.63, 1.77, 1.90.

$^5F_1$–$^7P'_2$ (**0.00,** 2.33), 0.00, 2.33, **4.67.**
$^5F_2$–$^7P'_2$ (1.33, **2.67**), −0.33, +**1.00, 2.33,** 3.67.
$^5F_2$–$^7P'_3$ (**0.00,** 0.92, 1.83), 0.08, 1.00, 1.92, 2.83, **3.75.**
$^5F_3$–$^7P'_2$ (**0.00,** 1.08, 2.17), **−0.92,** +0.17, 1.25, 2.33, 3.42.
$^5F_3$–$^7P'_3$ (0.67, 1.33, **2.00**), −0.08, +0.58, **1.25, 1.92,** 2.58, 3.25.
$^5F_3$–$^7P'_4$ (**0.00,** 0.50, 1.00, 1.50), 0.25, 0.75, 1.25, 1.75, 2.25, 2.75, **3.25.**
$^5F_4$–$^7P'_3$ (**0.00,** 0.57, 1.13, 1.70), **−0.35,** +0.21, 0.78, 1.35, 1.92, 2.48, 3.05.
$^5F_4$–$^7P'_4$ (0.40, 0.80, 1.20, **1.60**), 0.15, 0.55, 0.95, **1.35, 1.75,** 2.15, 2.55, 2.95.
$^5F_5$–$^7P'_4$ (**0.00,** 0.35, 0.70, 1.05, 1.40), **0.00,** 0.35, 0.70, 1.05, 1.40, 1.75, 2.10, 2.45, 2.80.

$^5F_1$–$^7D_1$ (3.00), 0.00, 3.00.
$^5F_1$–$^7D_2$ (**0.00,** 2.00), 0.00, 2.00, **4.00.**
$^5F_2$–$^7D_1$ (**0.00,** 2.00), **−1.00,** +1.00, 3.00.
$^5F_2$–$^7D_2$ (1.00, **2.00**), 0.00, **1.00, 2.00,** 3.00.
$^5F_2$–$^7D_3$ (**0.00,** 0.75, 1.50), 0.25, 1.00, 1.75, 2.50, **3.25.**
$^5F_3$–$^7D_2$ (**0.00,** 0.75, 1.50), **−0.25,** +0.50, 1.25, 2.00, 2.75.
$^5F_3$–$^7D_3$ (0.50, 1.00, **1.50**), 0.25, 0.75, **1.25, 1.75,** 2.25, 2.75.
$^5F_3$–$^7D_4$ (**0.00,** 0.40, 0.80, 1.20), 0.45, 0.85, 1.25, 1.65, 2.05, 2.45, **2.85.**
$^5F_4$–$^7D_3$ (**0.00,** 0.40, 0.80, 1.20), **0.15,** 0.55, 0.95, 1.35, 1.75, 2.15, 2.55.
$^5F_4$–$^7D_4$ (0.30, 0.60, 0.90, **1.20**), 0.45, 0.75, 1.05, **1.35, 1.65,** 1.95, 2.25, 2.55.
$^5F_4$–$^7D_5$ (**0.00,** 0.25, 0.50, 0.75, 1.00), 0.60, 0.85, 1.10, 1.35, 1.60, 1.85, 2.10, 2.35, **2.60.**
$^5F_5$–$^7D_4$ (**0.00,** 0.25, 0.50, 0.75, 1.00), **0.40,** 0.65, 0.90, 1.15, 1.40, 1.65, 1.90, 2.15, 2.40.
$^5F_5$–$^7D_5$ (0.20, 0.40, 0.60, 0.80, **1.00**), 0.60, 0.80, 1.00, 1.20, **1.40, 1.60,** 1.80, 2.00, 2.20, 2.40.

$^5F_1$–$^7F'_0$ (0.00), 0.00 unaffected.
$^5F_1$–$^7F'_1$ (1.50), **0.00,** 1.50.
$^5F_1$–$^7F'_2$ (**0.00,** 1.50), 0.00, 1.50, **3.00.**
$^5F_2$–$^7F'_1$ (**0.00,** 0.50), **0.50,** 1.00, 1.50.
$^5F_2$–$^7F'_2$ (0.50, **1.00**), 0.50, **1.00, 1.50,** 2.00.
$^5F_2$–$^7F'_3$ (**0.00,** 0.50, 1.00), 0.50, 1.00, 1.50, 2.00, **2.50.**
$^5F_3$–$^7F'_2$ (**0.00,** 0.25, 0.50), **0.75,** 1.00, 1.25, 1.50, 1.75.
$^5F_3$–$^7F'_3$ (0.25, 0.50, **0.75**), 0.75, 1.00, **1.25, 1.50,** 1.75, 2.00.

TABLE 13.—*Theoretical Zeeman effects (quintet-septet intersystem)*—Continued

$^5F_3$–$^7F'_4$ (**0.00**, 0.25, 0.50, 0.75), 0.75, 1.00, 1.25, 1.50, 1.75, 2.00, **2.25**.
$^5F_4$–$^7F'_3$ (**0.00**, 0.15, 0.30, 0.45), **0.90**, 1.05, 1.20, 1.35, 1.50, 1.65, 1.80.
$^5F_4$–$^7F'_4$ (0.15, 0.30, 0.45, **0.60**), 0.90, 1.05, 1.20, **1.35**, **1.50**, 1.65, 1.80, 1.95.
$^5F_4$–$^7F'_5$ (**0.00**, 0.15, 0.30, 0.45, 0.60), 0.90, 1.05, 1.20, 1.35, 1.50, 1.65, 1.80, 1.95, **2.10**.
$^5F_5$–$^7F'_4$ (**0.00**, 0.10, 0.20, 0.30, 0.40), **1.00**, 1.10, 1.20, 1.30, 1.40, 1.50, 1.60, 1.70, 1.80.
$^5F_5$–$^7F'_5$ (0.10, 0.20, 0.30, 0.40, **0.50**), 1.00, 1.10, 1.20, 1.30, **1.40**, **1.50**, 1.60, 1.70, 1.80, 1.90.
$^5F_5$–$^7F'_6$ (**0.00**, 0.10, 0.20, 0.30, 0.40, 0.50), 1.00, 1.10, 1.20, 1.30, 1.40, 1.50, 1.60, 1.70, 1.80, 1.90, **2.00**.

$^5F_1$–$^7G_1$ (0.50), 0.00, 0.50.
$^5F_1$–$^7G_2$ (**0.00**, 0.83), 0.00, 0.83, **1.67**.
$^5F_2$–$^7G_1$ (**0.00**, 1.50), −0.50, +1.00, **2.50**.
$^5F_2$–$^7G_2$ (0.17, **0.33**), 0.67, **0.83**, **1.00**, 1.17.
$^5F_2$–$^7G_3$ (**0.00**, 0.17, 0.33), 0.83, 1.00, 1.17, 1.33, **1.50**.
$^5F_3$–$^7G_2$ (**0.00**, 0.42, 0.83), 0.42, 0.83, 1.25, 1.67, **2.08**.
$^5F_3$–$^7G_3$ (0.08, 0.17, **0.25**), 1.00, 1.08, **1.17**, **1.25**, 1.33, 1.42.
$^5F_3$–$^7G_4$ (**0.00**, 0.05, 0.10, 0.15), 1.15, 1.20, 1.25, 1.30, 1.35, 1.40, **1.45**.
$^5F_4$–$^7G_3$ (**0.00**, 0.18, 0.37, 0.55), 0.80, 0.98, 1.17, 1.35, 1.53, 1.72, **1.90**.
$^5F_4$–$^7G_4$ (0.05, 0.10, 0.15, **0.20**), 1.15, 1.20, 1.25, **1.30**, **1.35**, 1.40, 1.45, 1.50.
$^5F_4$–$^7G_5$ (**0.00**, 0.02, 0.03, 0.05, 0.07), 1.30, 1.32, 1.35, 1.37, 1.38, 1.40, 1.42, **1.43**.
$^5F_5$–$^7G_4$ (**0.00**, 0.10, 0.20, 0.30, 0.40), 1.00, 1.10, 1.20, 1.30, 1.40, 1.50, 1.60, 1.70, **1.80**.
$^5F_5$–$^7G_5$ (0.03, 0.07, 0.10, 0.13, **0.17**), 1.23, 1.27, 1.30, 1.33, **1.37**, **1.40**, 1.43, 1.47, 1.50, 1.53.
$^5F_5$–$^7G_6$ (**0.00**, 0.005, 0.01, 0.014, 0.024), 1.38, 1.39, 1.39, 1.40, 1.40, 1.41, 1.41, 1.42, 1.42, **1.43**.

$^5G_2$–$^7D'_1$ (**0.00**, 2.67), −**2.33**, +0.33, 3.00.
$^5G_2$–$^7D'_2$ (1.67, **3.33**), −1.33, +**0.33**, **2.00**, 3.67.
$^5G_2$–$^7D'_3$ (**0.00**, 1.42, 2.83), −1.08, +0.33, 1.75, 3.17, **4.58**.
$^5G_3$–$^7D'_2$ (**0.00**, 1.08, 2.17), −**1.25**, −0.17, +0.92, 2.00, 3.08.
$^5G_3$–$^7D'_3$ (0.83, 1.67, **2.50**), −0.75, +0.08, **0.92**, **1.75**, 2.58, 3.42.
$^5G_3$–$^7D'_4$ (**0.00**, 0.73, 1.47, 2.20), −0.55, +0.18, 0.92, 1.65, 2.38, 3.12, **3.85**.
$^5G_4$–$^7D'_3$ (**0.00**, 0.60, 1.20, 1.80), −**0.65**, −0.05, +0.55, 1.15, 1.75, 2.35, 2.95.
$^5G_4$–$^7D'_4$ (0.50, 1.00, 1.50, **2.00**), −0.35, +0.15, 0.65, **1.15**, **1.65**, 2.15, 2.65, 3.15.
$^5G_4$–$^7D'_5$ (**0.00**, 0.45, 0.90, 1.35, 1.80), −0.20, +0.25, 0.70, 1.15, 1.60, 2.05, 2.95, **3.40**.
$^5G_5$–$^7D'_4$ (**0.00**, 0.38, 0.77, 1.15, 1.54), −**0.27**, +0.12, 0.50, 0.88, 1.27, 1.65, 2.03, 2.42, 2.80.
$^5G_5$–$^7D'_5$ (0.33, 0.67, 1.00, 1.33, **1.67**), −0.07, +0.27, 0.60, 0.93, **1.27**, **1.60**, 1.93, 2.27, 2.60, 2.93.

$^5G_2$–$^7F_1$ (**0.00**, 1.17), −**0.83**, +0.33, 1.50.
$^5G_2$–$^7F_2$ (1.17, **2.33**), −0.83, +**0.33**, **1.50**, 2.67.
$^5G_2$–$^7F_3$ (**0.00**, 1.17, 2.33), −0.83, +0.33, 1.50, 2.67, **3.83**.
$^5G_3$–$^7F_2$ (**0.00**, 0.58, 1.17), −**0.25**, +0.33, 0.92, 1.50, 2.08.
$^5G_3$–$^7F_3$ (0.58, 1.17, **1.75**), −0.25, +0.33, **0.92**, **1.50**, 2.08, 2.67.
$^5G_3$–$^7F_4$ (**0.00**, 0.58, 1.17, 1.75), −0.25, +0.33, 0.92, 1.50, 2.08, 2.67, **3.25**.
$^5G_4$–$^7F_3$ (**0.00**, 0.35, 0.70, 1.05), **0.10**, 0.45, 0.80, 1.15, 1.50, 1.85, 2.20.
$^5G_4$–$^7F_4$ (0.35, 0.70, 1.05, **1.40**), 0.10, 0.45, 0.80, **1.15**, **1.50**, 1.85, 2.20, 2.55.
$^5G_4$–$^7F_5$ (**0.00**, 0.35, 0.70, 1.05, 1.40), 0.10, 0.45, 0.80, 1.15, 1.50, 1.85, 2.20, 2.55, **2.90**.
$^5G_5$–$^7F_4$ (**0.00**, 0.23, 0.47, 0.70, 0.93), **0.33**, 0.57, 0.80, 1.03, 1.27, 1.50, 1.73, 1.97, 2.20.
$^5G_5$–$^7F_5$ (0.23, 0.47, 0.70, 0.93, **1.17**), 0.33, 0.57, 0.80, 1.03, **1.27**, **1.50**, 1.73, 1.97, 2.20, 2.43.
$^5G_5$–$^7F_6$ (**0.00**, 0.23, 0.47, 0.70, 0.93, 1.17), 0.33, 0.57, 0.80, 1.03, 1.27, 1.50, 1.73, 1.97, 2.20, 2.43, 2.67.
$^5G_6$–$^7F_5$ (**0.00**, 0.17, 0.33, 0.50, 0.67, 0.83), **0.50**, 0.67, 0.83, 1.00, 1.17, 1.33, 1.50, 1.67, 1.83, 2.00, 2.17.
$^5G_6$–$^7F_6$ (0.17, 0.33, 0.50, 0.67, 0.83, **1.00**), 0.50, 0.67, 0.83, 1.00, 1.17, **1.33**, **1.50**, 1.67, 1.83, 2.00, 2.17, 2.33.

$^5G_2$–$^7G'_1$ (**0.00**, 0.83), −0.50, +0.33, **1.17**.
$^5G_2$–$^7G'_2$ (0.50, **1.00**), −0.17, +**0.33**, **0.83**, 1.33.
$^5G_2$–$^7G'_3$ (**0.00**, 0.83, 1.67), −0.50, +0.33, 1.17, 2.00, **2.83**.
$^5G_3$–$^7G'_2$ (**0.00**, 0.08, 0.17), 0.75, 0.83, 0.92, 1.00, **1.08**.
$^5G_3$–$^7G'_3$ (0.25, 0.50, **0.75**), 0.42, 0.67, **0.92**, **1.17**, 1.42, 1.67.
$^5G_3$–$^7G'_4$ (**0.00**, 0.38, 0.77, 1.15), 0.15, 0.53, 0.92, 1.30, 1.68, 2.07, **2.45**.
$^5G_4$–$^7G'_3$ (**0.00**, 0.02, 0.04, 0.06), **1.09**, 1.11, 1.13, 1.15, 1.17, 1.19, 1.21.
$^5G_4$–$^7G'_4$ (0.15, 0.30, 0.45, **0.60**), 0.70, 0.85, 1.00, **1.15**, **1.30**, 1.45, 1.60, 1.75.
$^5G_4$–$^7G'_5$ (**0.00**, 0.22, 0.43, 0.65, 0.87), 0.50, 0.72, 0.93, 1.15, 1.37, 1.59, 1.80, 2.02, **2.23**.
$^5G_5$–$^7G'_4$ (**0.00**, 0.03, 0.07, 0.10, 0.13), **1.13**, 1.17, 1.20, 1.23, 1.27, 1.30, 1.33, 1.37, 1.40.
$^5G_5$–$^7G'_5$ (0.10, 0.20, 0.30, 0.40, **0.50**), 0.87, 0.97, 1.07, 1.17, **1.27**, **1.37**, 1.47, 1.57, 1.67, 1.77.
$^5G_5$–$^7G'_6$ (**0.00**, 0.14, 0.28, 0.41, 0.55, 0.69), 0.71, 0.85, 0.99, 1.13, 1.27, 1.40, 1.54, 1.68, 1.82, 1.96, **2.09**.
$^5G_6$–$^7G'_5$ (**0.00**, 0.03, 0.07, 0.10, 0.13, 0.17), **1.17**, 1.20, 1.23, 1.27, 1.30, 1.33, 1.37, 1.40, 1.43, 1.47, 1.50.
$^5G_6$–$^7G'_6$ (0.07, 0.14, 0.21, 0.29, 0.36, **0.43**), 0.98, 1.05, 1.12, 1.19, 1.26, **1.33**, **1.41**, 1.48, 1.55, 1.62, 1.69, 1.76.
$^5G_6$–$^7G'_7$ (**0.00**, 0.10, 0.19, 0.29, 0.38, 0.48, 0.57), 0.86, 0.95, 1.05, 1.14, 1.24, 1.33, 1.43, 1.52, 1.62, 1.72, 1.81, 1.91, **2.00**.

TABLE 14.—*Landé g values with decimal equivalents for terms of even multiplicity*

$-\frac{4}{3}=$	−1.333	$^8G_1$.
$-\frac{2}{3}=$	−0.667	$^6F_1$.
$-\frac{2}{5}=$	−0.400	$^8H_2$.
$\frac{0}{0}=$	0.000	$^4D_1$, $^6G_2$, $^8I_3$.
$\frac{2}{7}=$	0.286	$^6H_3$.
$\frac{2}{6}=$	0.400	$^4F_2$.
$\frac{4}{9}=$	0.444	$^6I_4$.
$\frac{4}{7}=$	0.571	$^4G_3$.
$\frac{2}{3}=$	0.667	$^2P_1$, $^4H_4$, $^8I_4$.
$\frac{24}{36}=$	0.686	$^8H_3$.
$\frac{8}{11}=$	0.727	$^4I_5$.
$\frac{4}{5}=$	0.800	$^2D_2$.
$\frac{52}{63}=$	0.825	$^6H_4$.
$\frac{7}{11}=$	0.828	$^6I_5$.
$\frac{6}{7}=$	0.857	$^2F_3$, $^6G_3$.
$\frac{8}{9}=$	0.889	$^2G_4$.
$\frac{10}{11}=$	0.909	$^2H_5$.
$\frac{12}{13}=$	0.923	$^2I_6$.
$\frac{14}{15}=$	0.933	$^8G_2$.
$\frac{138}{143}=$	0.965	$^4I_6$.
$\frac{33}{33}=$	0.970	$^4H_5$, $^8I_5$.
$\frac{62}{63}=$	0.984	$^4G_4$.
$\frac{35}{36}=$	1.029	$^4F_3$.
$\frac{148}{143}=$	1.035	$^6I_6$.
$\frac{22}{21}=$	1.048	$^8H_4$.
$\frac{16}{15}=$	1.067	$^6F_2$.
$\frac{1076}{999}=$	1.071	$^6H_5$.
$\frac{14}{13}=$	1.077	$^2I_7$.
$\frac{12}{11}=$	1.091	$^2H_6$.
$\frac{72}{66}=$	1.108	$^4I_7$.
$\frac{10}{9}=$	1.111	$^2G_5$.
$\frac{152}{143}=$	1.133	$^4H_6$, $^8I_6$.
$\frac{9}{8}=$	1.143	$^2F_4$, $^6G_4$.
$\frac{228}{198}=$	1.159	$^6I_7$.
$\frac{1116}{999}=$	1.172	$^4G_5$.
$\frac{6}{5}=$	1.200	$^2D_3$, $^4D_2$, $^4I_8$.
$\frac{173}{143}=$	1.203	$^6H_6$.
$\frac{49}{43}=$	1.212	$^8H_5$.
$\frac{16}{13}=$	1.231	$^4H_7$, $^8I_7$.
$\frac{78}{63}=$	1.238	$^4F_4$.
$\frac{3116}{2574}=$	1.239	$^6I_8$.
$\frac{44}{35}=$	1.257	$^8G_3$.
$\frac{14}{11}=$	1.273	$^4G_6$, $^6G_5$.
$\frac{39}{32}=$	1.282	$^6H_7$.
$\frac{418}{323}=$	1.294	$^6I_9$.
$\frac{22}{17}=$	1.294	$^8I_8$.
$\frac{156}{143}=$	1.301	$^8H_6$.
$\frac{46}{35}=$	1.314	$^6F_3$.
$\frac{4}{3}=$	1.333	$^2P_2$, $^4F_5$, $^6H_8$.
$\frac{4332}{3248}=$	1.337	$^8I_9$.
$\frac{172}{128}=$	1.343	$^6G_6$.
$\frac{88}{65}=$	1.354	$^8H_7$.
$\frac{88}{63}=$	1.365	$^8G_4$.
$\frac{26}{19}=$	1.368	$^8I_{10}$.
$\frac{48}{35}=$	1.371	$^4D_3$.
$\frac{18}{13}=$	1.385	$^6G_7$.
$\frac{118}{85}=$	1.388	$^8H_8$.
$\frac{88}{63}=$	1.397	$^6F_4$.
$\frac{4332}{3096}=$	1.412	$^8H_9$.
$\frac{140}{99}=$	1.414	$^8G_5$.
$\frac{10}{7}=$	1.429	$^4D_4$.
$\frac{143}{99}=$	1.434	$^6F_5$.
$\frac{206}{143}=$	1.441	$^8G_6$.
$\frac{16}{11}=$	1.455	$^6F_6$.
$\frac{2834}{1955}=$	1.456	$^8G_7$.
$\frac{22}{15}=$	1.467	$^8G_8$.
$\frac{20}{13}=$	1.538	$^8F_7$.
$\frac{222}{143}=$	1.552	$^8F_6$.
$\frac{14}{9}=$	1.556	$^6D_5$.
$\frac{52}{33}=$	1.576	$^8F_5$.
$\frac{100}{63}=$	1.587	$^6D_4$.
$\frac{8}{5}=$	1.600	$^4P_3$.
$\frac{34}{21}=$	1.619	$^8F_4$.
$\frac{18}{11}=$	1.636	$^8D_6$.
$\frac{85}{55}=$	1.657	$^6D_3$.
$\frac{52}{33}=$	1.697	$^8D_5$.
$\frac{12}{7}=$	1.714	$^6P_4$, $^8F_3$.
$\frac{28}{16}=$	1.733	$^4P_2$.
$\frac{16}{9}=$	1.778	$^8P_5$.
$\frac{38}{21}=$	1.809	$^8D_4$.
$\frac{28}{14}=$	1.867	$^6D_2$.
$\frac{66}{35}=$	1.886	$^6P_3$.
$\frac{123}{63}=$	1.937	$^8P_4$.
$2=$	2.000	$^2S_1$, $^4S_2$, $^6S_3$, $^8S_4$, $^8F_2$.
$\frac{72}{35}=$	2.057	$^8D_3$.
$\frac{16}{7}=$	2.286	$^8P_3$.
$\frac{12}{5}=$	2.400	$^6P_2$.
$\frac{8}{3}=$	2.667	$^4P_1$.
$\frac{14}{5}=$	2.800	$^8D_2$.
$\frac{10}{3}=$	3.333	$^6D_1$.
$4=$	4.000	$^8F_1$.

TABLE 15.—*Landé g values with decimal equivalents for terms of odd multiplicity*

$-\frac{1}{3}$	$=-0.500$	$^7G_1$.
$\frac{0}{0}$	$=\frac{0}{0}$	$^1S_0$, $^3P_0$, $^5D_0$, $^7F_0$.
$\frac{0}{2}, \frac{0}{6}$	$=0.000$	$^5F_1$, $^7H_2$.
$\frac{1}{4}$	$=0.250$	$^7I_3$.
$\frac{1}{3}$	$=0.333$	$^5G_2$.
$\frac{1}{2}$	$=0.500$	$^3D_1$, $^5H_3$.
$\frac{3}{5}$	$=0.600$	$^5I_4$.
$\frac{2}{3}$	$=0.667$	$^3F_2$.
$\frac{3}{4}$	$=0.750$	$^3G_3$, $^7H_3$, $^7I_4$.
$\frac{4}{5}$	$=0.800$	$^3H_4$.
$\frac{5}{6}$	$=0.833$	$^3I_5$, $^7G_2$.
$\frac{9}{10}$	$=0.900$	$^5H_4$, $^5I_5$.
$\frac{11}{12}$	$=0.917$	$^5G_3$.
1	$=1.000$	$^1P_1$, $^1D_2$, $^1F_3$, $^1G_4$, $^1H_5$, $^1I_6$, $^5F_2$, $^7I_5$.
$\frac{43}{42}$	$=1.024$	$^3I_6$.
$\frac{31}{30}$	$=1.033$	$^3H_5$.
$\frac{21}{20}$	$=1.050$	$^3G_4$, $^7H_4$.
$\frac{15}{14}$	$=1.071$	$^5I_6$.
$\frac{13}{12}$	$=1.083$	$^3F_3$.
$\frac{11}{10}$	$=1.100$	$^5H_5$.
$\frac{8}{7}$	$=1.143$	$^3I_7$, $^7I_6$.
$\frac{23}{20}$	$=1.150$	$^5G_4$.
$\frac{7}{6}$	$=1.167$	$^3D_2$, $^3H_6$, $^7G_3$.
$\frac{33}{28}$	$=1.179$	$^5I_7$.
$\frac{6}{5}$	$=1.200$	$^3G_5$, $^7H_5$.
$\frac{17}{14}$	$=1.214$	$^5H_6$.
$\frac{69}{56}$	$=1.232$	$^7I_7$.
$\frac{5}{4}$	$=1.250$	$^3F_4$, $^5F_3$, $^5I_8$.
$\frac{19}{15}$	$=1.267$	$^5G_5$.
$\frac{9}{7}$	$=1.286$	$^5H_7$, $^7H_6$.
$\frac{31}{24}$	$=1.292$	$^7I_8$.
$\frac{13}{10}$	$=1.300$	$^7G_4$.
$\frac{4}{3}$	$=1.333$	$^3D_3$, $^5G_6$, $^7I_9$.
$\frac{27}{20}$	$=1.350$	$^5F_4$.
$\frac{75}{56}$	$=1.339$	$^7H_7$.
$\frac{41}{30}$	$=1.367$	$^7G_5$.
$\frac{11}{8}$	$=1.375$	$^7H_8$.
$\frac{7}{5}$	$=1.400$	$^5F_5$.
$\frac{59}{42}$	$=1.405$	$^7G_6$.
$\frac{10}{7}$	$=1.429$	$^7G_7$.
$\frac{3}{2}$	$=1.500$	$^3P_1$, $^3P_2$, $^5D_1$, $^5D_2$, $^5D_3$, $^5D_4$, $^7F_1$, $^7F_2$, $^7F_3$, $^7F_4$, $^7F_5$, $^7F_6$.
$\frac{8}{5}$	$=1.600$	$^7D_5$.
$\frac{33}{20}$	$=1.650$	$^7D_4$.
$\frac{5}{3}$	$=1.667$	$^5P_3$.
$\frac{7}{4}$	$=1.750$	$^7P_4$, $^7D_3$.
$\frac{11}{6}$	$=1.833$	$^5P_2$.
$\frac{23}{12}$	$=1.917$	$^7P_3$.
2	$=2.000$	$^3S_1$, $^5S_2$, $^7S_3$, $^7D_2$.
$\frac{7}{3}$	$=2.333$	$^7P_2$.
$\frac{5}{2}$	$=2.500$	$^5P_1$.
3	$=3.000$	$^7D_1$.

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